Failing to prepare, preparing to fail?

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FAILING TO PREPARE, PREPARING TO FAIL?

HOME COUNTRY ALLIANCE EXPERIENCE AS AN ANTECEDENT TO INTERNATIONAL EXPANSION

Proefschrift ter verkrijging van de graad van doctor aan Tilburg University op gezag van de rector magnificus, prof. dr. E.H.L. Aarts, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de aula van de Universiteit op vrijdag 23 september 2016 om 10.00 uur door Cecilia Hendrika Alijda Rademaker, geboren op 1 augustus 1985 te Soest.

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Looking back on this incredible journey I am humbled by the things I have learned, the people I have met, and the places I have been. Not everyone is given these opportunities in life and I will never seize to be grateful for them. I look forward to developing my academic career and providing meaningful contributions to academia and, more importantly, society at large.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

"By failing to prepare, you are preparing to fail"

This quote is often (incorrectly) attributed to Benjamin Franklin. While its origins remain unclear, the sentence captures the essence of strategy: the ability to successfully execute any strategy is contingent on careful preparation.

Two main topics form the foundation of this dissertation. The first of these topics is foreign direct investment (FDI) spillovers. For decades, researchers in economics and international business have been interested in trying to understand the extent to which the presence of foreign multinational enterprises (MNEs) in a host country can influence the development of local firms. Despite significant interest in the topic, the economics literature tends to be quite vague on potential spillover effects, addressing them at the macro level, and the international business literature has been troubled by a lack of firm-level data and contradictory findings to support hypotheses about spillovers (Eden, 2009). Moreover, most of the research on FDI spillovers has focused on increases in productivity or innovativeness of host country firms, without considering the role of direct interaction or alternative spillover outcomes (Eapen, 2012; Feinberg & Majumdar, 2001; Liu & Buck, 2007; Meyer & Sinani, 2009; Tian, 2007; Wei & Liu, 2006; Zhang, Li, Li & Zhou, 2010; Zhang, Li & Li, 2014). In addition, it is unclear if and under which circumstances foreign direct investment can lead to win-win situations whereby both the foreign MNE and local communities benefit from the MNE's search for profits through foreign direct investment.

The second topic is learning from strategic alliances. While most of the extant research on learning from alliances has studied collaborations in a domestic context (Anand & Khanna, 2000; Hamel, 1991; Sampson, 2005; 2007), the potential for learning should be greater in cross-border alliances with partners from different countries. Moreover, the tendency of studies on learning from alliances to focus on the technological knowledge or relational aspects ignores the possibility of learning about other things that may be particularly useful to firms. In particular, given the challenges associated with learning about technologies through strategic alliances, such as the necessity for absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002) and tendencies of firms to protect their proprietary knowledge (Hamel, 1991), a better understanding of the content of learning is warranted.

Moreover, the behavioral theory of the firm has highlighted the challenges associated with learning (Argote & Miron-Spektor, 2011; Levinthal & March, 1993). In particular, the tendency to rely on more recently acquired knowledge, successful experience, and to generalize can lead to inappropriate inferences and decision-making based on heuristics (Miller, Thomas, Eden & Hitt, 2008; Thomas, Eden, Hitt & Miller, 2007). As such, it is important to understand to what extent strategic decisions in FDI are based on experiential learning and knowledge development or rather the outcome of cognitive biases.

In the international business literature we find that although internalization theory has emphasized the need for firm specific advantages for firms to invest abroad (Buckley & Casson, 1976; Caves, 1996; Dunning, 1979; Hymer, 1976), how these firm-specific advantages can be developed is less clear. Specifically, the extent to which collaborating with foreign multinational enterprises (MNEs) can aid the development of skills or resources needed for the firm's own foreign direct investment (FDI) is poorly understood. While some authors have argued that inward FDI may have a positive effect on outward FDI (Gu & Lu, 2011; Li, Li &

Shapiro, 2012; Thomas et al., 2007), the circumstances under and the mechanisms through which this occurs remain largely unclear.

In addition, there have been many studies on the challenges associated with foreign direct investment that emanate from the liability of foreignness and outsidership (Zaheer, 1995). Foreign firms investing in a country will normally be at a disadvantage compared to local firms due to a lack of knowledge about the local market and the environment and the absence of an existing network (Johanson & Vahlne, 2009; Zaheer, 1995). Several studies have started to address the ways in which firms can mitigate the liability of foreignness upon investing abroad (Bell, Filatotchev & Rasheed, 2012; Bhanji & Oxley, 2013; Mezias, 2002; Wu & Salomon, 2015). Yet the ways in which firms can better prepare for international expansion and thereby reduce the liability of foreignness prior to investing abroad is poorly understood.

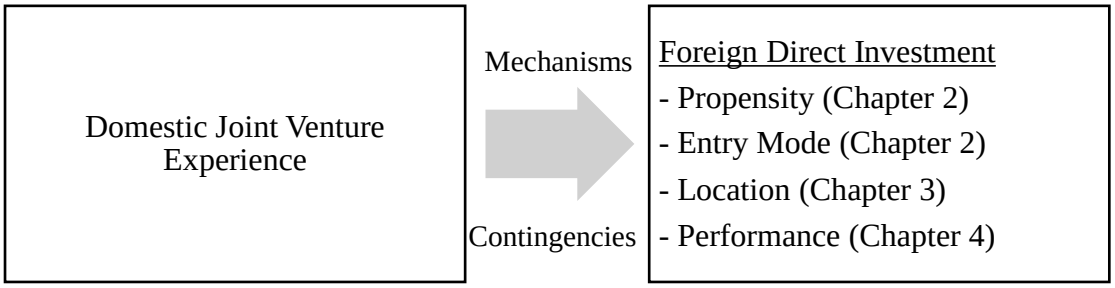
In the study of internationalization (foreign investment) decisions and performance, a firm's previous international expansion experience has an important explanatory role. By now, we have a fair understanding of how a firm's own internationalization experience (i.e., its own experience expanding abroad) may matter and under what conditions (Delios & Henisz, 2003; Johanson & Vahlne, 1977). However, we know very little about the extent to which domestic collaborations with foreign MNEs can provide similar benefits and as such serve as a source of international experience.

My dissertation attempts to address these issues by considering if and how domestic collaborations with foreign MNEs can aid the development of firm-specific advantages to encourage international expansion and help the firm prepare for international expansion to reduce (the negative effects of) the liability of foreignness prior to investing abroad by addressing the question:

How does partnering with foreign firms domestically affect a firm's subsequent internationalization decisions and the performance of foreign subsidiaries?

Starting with theory about how and under what conditions foreign partners can be useful sources of relevant knowledge, this dissertation seeks to address this issue in an emerging economy context. Figure 1 provides an overview of the papers that constitute the body of the dissertation.

Figure 1: Dissertation Overview



The different chapters of my dissertation address different aspects of the relation between domestic joint venture experience with foreign MNEs and international expansion.

The second chapter of this dissertation examines the following question:

How does domestic joint venture experience influence the propensity to invest abroad and the entry mode chosen upon investing abroad?

In this study I develop theory based on internalization theory, organizational learning, and the alliance literature about the ways in which the propensity to invest abroad and entry modes chosen are influenced by firms' domestic collaborations. To test my hypotheses I have compiled a firm-level panel dataset on outward and inward investment in China in the period 1978-2014 that includes all joint ventures between Chinese and foreign firms. I also draw from fieldwork that was conducted in China. The findings of this study demonstrate that domestic joint venture experience significantly influences the propensity to invest abroad and the entry mode choice but that this relation is contingent on the recency and level of this experience.

A related question is how exposure to foreign MNEs influences where a focal firm chooses to invest. Recent studies on emerging market multinational enterprises have started to suggest that firms can substitute domestic joint ventures with foreign MNEs for knowledge-seeking outward foreign direct investment (Li et al., 2012). Moreover, the necessity of investing abroad in search of new knowledge is likely to be contingent on the firms' extant technological capabilities. The third chapter of this dissertation addresses these issues by examining the question:

How does domestic joint venture experience with foreign partners influence the location choice in foreign direct investment?

In this chapter I draw from the literature on knowledge-seeking FDI, the Uppsala internationalization model, absorptive capacity, and learning from alliances to develop theory and test the resulting hypotheses. The findings demonstrate that having collaborated with foreign MNEs in the home country has strong effects on the preference of firms to invest in more technologically developed host countries. In addition we identify boundary conditions

relating to firms' own technological capabilities and the revealed technological advantage of the home and host country industry.

While the first two empirical papers of my dissertation are primarily concerned with investment decisions whereby firms expand abroad, the fourth chapter examines a follow-up question:

> *How does domestic joint venture experience with foreign partners influence the success of foreign direct investment?*

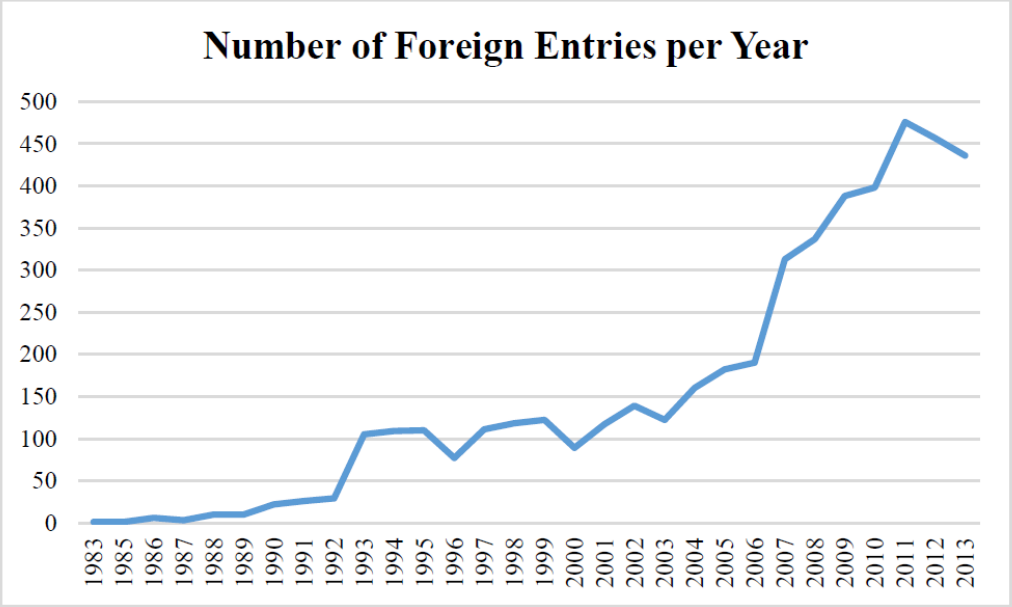
Although firms may be more likely to invest abroad as a result of having collaborated with foreign firms, this does not necessarily imply that they will be better able to do so. After all, experiential learning is subject to a number of traps (Argote & Miron-Spektor, 2011; Levinthal & March, 1993; Levitt & March, 1988). This paper teases out to what extent firms that have domestic joint venture experience with foreign partners are actually more successful in their foreign entries than firms that do not. Building theoretically on the Uppsala internationalization model (Johanson & Vahlne, 2009; Johanson & Vahlne, 1977) and on literature about the liability of foreignness (Hymer, 1976; Zaheer, 1995), I advance and test hypotheses about subsidiary survival and the circumstances under which domestic joint venture experience can aid international expansion. The analyses, including firm and time fixed effects and buttressed by various approaches to deal with endogeneity threats (two-stage models and matching), demonstrate that domestic joint venture experience can significantly reduce the probability of failure, and also that several firm, alliance, and FDI characteristics influence this relationship.

Chinese context

The empirical context in which I study the effect of domestic joint venture experience on the internationalization of emerging market firms is that of China. There are several reasons why the Chinese context is a useful context to study this phenomenon.

First, in the last three and a half decades, China has been exposed to large FDI inflows. Foreign direct investment in China started to take off after the introduction of market reforms in 1978 that initiated the shift from a centrally-planned economy to a market-based economy. One of the main aspects of this policy was the opening up of the Chinese economy to foreign direct investment. While prior to 1978 foreign direct investment into China was not allowed, after the market reforms foreign MNEs were allowed to invest in China if they formed a joint venture with a local partner. Other entry modes were not permitted. While still cautious about the potential and risks associated with conducting foreign direct investment in China, many foreign MNEs were eager to gain access to the low labor cost and market potential that China provided. As a results, foreign direct investment in China started to really take off from the mid-1980s, often in manufacturing industries. A plot of our data on foreign entries shows sharp increases in foreign direct investment by Chinese firms from the mide-1990s.

Figure 2: Outward FDI from China



While China started opening up to foreign investors, it wasn't until the early 1990s that China slowly started to allow Chinese firms to invest abroad. As such, the only way for Chinese firms to gain access to foreign markets was through joint ventures with foreign firms in China. Chinese firms were thus exposed to inward foreign direct investment, while being limited in their own international expansion. Only after the Chinese government loosened restrictions on outward foreign direct investment in 1997 did Chinese firms start to expand abroad.

For the purpose of this dissertation, China thus provides an interesting context to study the ways in which home country collaborations with foreign multinational enterprises can influence the international expansion of local firms. The government restrictions on inward and outward FDI create a semi-natural experiment in which to test predictions about the effects of domestic joint venture experience with foreign MNEs on the international expansion of Chinese firms. As an emerging market that has seen tremendous growth over the past decades, China is a useful setting to investigate the role of foreign MNEs in providing local firms with

access to knowledge that is scarce in their domestic market and the different ways in which emerging market are able to catch up and become competitive in international markets.

While the Chinese context is very suitable to study the research questions posed in this dissertation, it is also a complicated setting. China is a unique country along several dimensions and while my primary interest in this dissertation is not in investigating these features, they must be taken into account, both theoretically and empirically, for my findings to hold any value outside the Chinese context. For one, the Chinese economy is heavily influenced by government policies on trade and investment. Where in the early days of opening up the government created Special Economic Zones, such as in Shandong province, with favorable investment climates to attract foreign firms and stimulate entrepreneurship, at later points in time the Chinese government actively encouraged outward foreign direct investment through their 'going abroad' policy, which lead to sharp increases in outward FDI. This strong government involvement implies that Chinese firms' investment decisions will sometimes be driven or hindered by investment policies and understanding how these factors stand to affect the phenomena of interest is critical. In addition, the Chinese economy is still dominated by state-owned enterprises (SOEs). State-owned enterprises have different incentives for collaborating with foreign MNEs, they are managed differently, and they make foreign direct investment decisions that are not always based on profit maximization goals.

Throughout this dissertation I try to account for these unique characteristics of the Chinese context and I will discuss the generalizability of our findings beyond the Chinese context in detail in the conclusion chapter.

Data

As mentioned briefly before, the hypotheses developed from the theory in chapters 2-4 are tested on a database of Chinese inward and outward FDI. This database was collected over the course of several years and consist of several components.

The first part consists of joint ventures between Chinese firms and foreign MNEs in China over the period of 1978-2014. Data was collected from a combination of Chinese government and public data. For the period of 1978-1997 I primarily rely on data from the Almanac of Foreign Economic Relations and Trade of China, or China Yearbook. This almanac, published by the Chinese Ministry of Commerce, has extensive information on China's trade relations with other countries and MNE presence in the country from 1978 up to 1997 (and for the largest 500 Sino-foreign joint ventures until 2001) and has been used in a number of studies (Cuypers & Martin, 2010; Luo & Peng, 1999). For the period of 1978-1997 this comprises all Sino-foreign joint ventures in China, and as such a population of foreign direct investment for this period. In the period of 1997-2001 the Almanac recorded only the 500 largest Sino-foreign joint ventures in China. I supplemented and cross-checked this data with joint venture data from several databases, including SDC Alliances & Joint Ventures and LexisNexis Corporate Affiliations. This dataset was then used to create a database of Chinese firms with domestic joint venture experience with foreign MNEs.

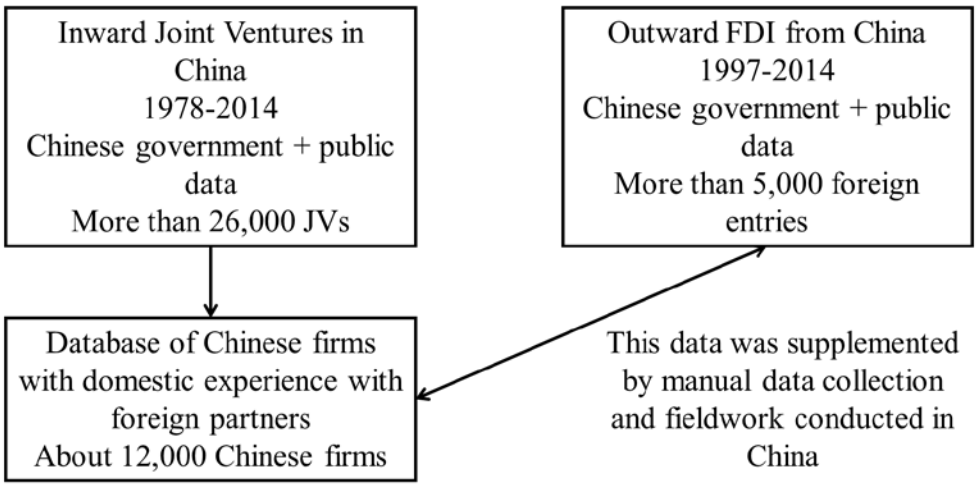
The second part of the data pertains to outward foreign direct investment by Chinese firms. Data on outward foreign direct investment in the period of 1978-2014[1] was obtained from a number of sources, including SDC Alliances & Joint Ventures, SDC Mergers & Acquisitions, LexisNexis Corporate Affiliations, Orbis, Qin, the Chinese Ministry of Commerce data on outward FDI, and the Heritage Foundation's database on Chinese outward

[1] In practice, most outward FDI took place after 1997.

FDI. These datasets were subsequently combined to form a comprehensive database of Chinese outward FDI.

This database was then linked to the data on domestic joint ventures and supplemented by additional data from company websites, annual reports, LexisNexis, CSMAR, CEIC; SIPO, and other databases. I ensured the validity of the data through cross-verification, and controlled for mergers and name changes (both of which are quite common in the Chinese context). The ensuing database forms the basis of the empirical work in this dissertation. While subject to inherent limitations this database provides comprehensive data on both inward and outward foreign direct investment since the opening up of the Chinese economy. Data limitations will be addressed on a paper by paper basis and in detail in the conclusion chapter. An overview of the data collection process can be found in figure 2.

Figure 3: Overview of the Data Collection Process



In addition to this database, throughout my dissertation we draw from fieldwork conducted in China in December 2012 and in the academic year 2014-2015. This fieldwork consisted of over 25 interviews and numerous informal conversations with top management of foreign MNEs in

China, Chinese MNEs, and Chinese firms that had yet to invest abroad. Some of these Chinese firms had engaged in joint ventures with foreign partners, others had not. Some of these firms were state-owned, others were privately owned. Our interviews with Chinese managers focused on domestic joint ventures with foreign MNEs, what firms think they learned from these joint ventures, and firms' foreign direct investment strategies. The goal was to determine whether or not Chinese firms learned from their domestic joint ventures, what it was they learned, and how they were able to use this in their international expansion. Managers of foreign MNEs were asked to describe their joint ventures with local partners and what they believed their partners learned from these joint ventures.

While we were extremely lucky to gain access to some of China's most prominent firms and we attempted to follow academic standards in qualitative data collection, we were unable to collect enough observations to warrant a high-quality qualitative study. Instead, throughout this dissertation we will draw from the insights gained through our qualitative data collection to inform our findings and explicate underlying mechanisms.

Overall, my dissertation, by demonstrating how certain firms can learn from foreign partners in their home country and thereby prepare for internationalization, seeks to contribute to the literature on corporate and global strategy, on learning from alliances, and on the internationalization of emerging market firms. I return to these points of contribution in the fifth, final chapter of the dissertation.

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CHAPTER 2

HOME COUNTRY ALLIANCE EXPERIENCE AND THE INTERNATIONALIZATION OF CHINESE FIRMS

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HOME COUNTRY ALLIANCE EXPERIENCE AND THE INTERNATIONALIZATION OF CHINESE FIRMS

ABSTRACT

This paper examines how collaboration with multinational enterprises affect local firms' attempts to expand internationally. We theorize that experiencing domestic joint ventures with foreign investors can induce knowledge spillovers that affect a firm's choice of entry mode in subsequent foreign investments. We also theorize that the effect of domestic experience is contingent on the technology intensity of the firm's activities, and the recency of its experience. Using a sample of firm-level foreign direct investment (FDI) in- and out-flows for China during 1978-2014, we find substantive effects of joint venture experience on the propensity of Chinese firms to conduct FDI and how they enter. In addition we find that the effect of domestic joint venture experience is contingent on firm and experience characteristics. We draw implications for internalization and behavioral perspectives on FDI, and specifically for the study of emerging-economy firms.

INTRODUCTION

Whereas some firms internationalize upon foundation, other firms never venture beyond the borders of their home country. Despite significant attention to the process of internationalization (e.g. Johanson & Vahlne, 1977) and born-global firms (Knight & Cavusgil, 2004), surprisingly little is known about the home-country drivers of international expansion. International expansion is often linked to the presence of proprietary resources (Buckley & Casson, 1976; Caves, 2007; Hymer, 1976), capabilities (Chang, 1995), and learning from experience (Barkema & Vermeulen, 1998; Johanson & Vahlne, 1977), something that can be broadly understood as firm-specific advantages. However, other factors that induce firms to look abroad have been rather understudied in empirical studies. For instance, while Aharoni (1966) already emphasized how personal connections to foreign firms could induce outward investment, few studies have empirically investigated how domestic ties can drive international expansion (Guler & Guillén, 2010; Tuschke, Sanders & Hernandez, 2014). Additional complications in the internationalization process are the difficulties that firms frequently face upon internationalization, as described by the liability of foreignness or of outsidership (Johanson & Vahlne, 2009; Zaheer, 1995). In spite of the widespread recognition of these risks, limited attention has been paid to the ways in which firms can reduce these issues prior to (rather than during or after) international expansion (Bell, Filatotchev & Rasheed, 2012; Bhanji & Oxley, 2013; Mezias, 2002) and thereby induce international expansion.

Over the last decades the growing importance of strategic alliances between firms has been met in the literature by an increased emphasis on interfirm linkages. Building an alliance network is now seen as an essential feature of foreign direct investment (FDI) success (Johanson & Vahlne, 2009). In addition, alliance experience has been demonstrated to improve performance of not only future alliances, but also of other strategic actions (Zollo & Reuer, 2010). However, the role of home country relationships in shaping firms' international

strategies has received limited attention (Guler & Guillén, 2010; Miller, Thomas, Eden & Hitt, 2008).

This paper seeks to address this gap in the literature by examining in what ways joint ventures (JVs) with multinational enterprises (MNEs) in a firm's home country may affect its probability of international expansion. In addition, we investigate how home country JV experience affects the entry mode chosen upon internationalization. We hypothesize that JVs with MNEs provide local firms with access to different types of valuable knowledge that may not only aid their current (domestic) activities but also increases their likelihood of internationalization. Furthermore, we test whether local firms' domestic JV experience affects the entry mode chosen upon internationalization. The hypotheses are tested using firm-level data on JVs in China for the period 1978-2014 and on Chinese outward FDI up to 2014.Our results are supplemented by fieldwork conducted in China.

We address the role of home country collaborative experience on the internationalization of firms. Some recent studies have started to investigate the relation between inward and outward foreign direct investment, and these studies have generally found a positive relation between inward and outward investment. For instance, Gu and Lu (2011) find a positive relation between inward and outward investment, which is stronger for co-investments and Thomas et al. (2007) find a positive effect of alliance experience with developed market firms on the likelihood of conducting FDI. However, these studies have been unable to address the role of firm and experience characteristics on the propensity to invest abroad and entry mode choice. While Gu and Lu (2011), for instance, relied on aggregate investment data, Thomas et al. (2007) studied the effects of inward FDI in a two-country setting, ignoring outward FDI into other countries. We use firm-level data that allow us to trace back all interactions between foreign MNEs and local firms and include investments into all other countries and as such provide a more in-depth investigation into the effects of home

country joint venture experience on firm internationalization. Furthermore, we identify important contingencies that must be taken into account in studying the relation between inward and outward FDI.

While the vast body of literature on the drivers of foreign direct investment have identified the effect of firm-specific advantages (FSAs) on the propensity of firms to conduct foreign direct investment (Buckley & Casson, 1976; Dunning, 1979; Hymer, 1976) and on the performance of foreign ventures, and on the performance of foreign ventures, few have addressed the source of these firm-specific advantages. We argue that home country collaborations with foreign MNEs can add to a firm's current knowledge base and as such make them more attractive candidates for foreign direct investment. Moreover, these collaborations have the potential to reduce the difficulties that firms are likely to face upon internationalization, thereby reducing the liability of foreignness. Thus, our study adds to the literature on internalization and the liability of foreignness by identifying a way in which firms can increase their firm-specific advantages and simultaneously reduce some of the issues associated with the liability of foreignness.

China's foreign policy has attracted MNEs from all over the world in the 1980s and 1990s. These MNEs were generally required to enter into joint ventures with local Chinese firms, a policy designed to induce knowledge spillovers. However, support for the presence of these spillovers is mixed. Some authors have argued that Chinese firms were limited in their ability to obtain knowledge from their MNE JV partners (Rui & Yip, 2008), whereas others have suggested that cooperation with foreign MNEs allowed Chinese firms to learn about international production and quality standards (Child & Rodrigues, 2005). This study demonstrates one of the ways in which spillovers were present by arguing that Chinese firms were able to obtain different types of knowledge from their MNE partners that could form the basis of their international strategies. It thereby contributes to our understanding of the

internationalization of Chinese firms and identifies mechanisms through which these firms may have been able to speed up the internationalization process.

Finally, this study speaks to the vast body of literature on organizational learning. Founded on the behavioral theory of the firm (Cyert & March, 1963), this research stream has investigated the challenges that firms face in learning from experience. In particular, studies in this field have taken a more critical approach to the general learning literature by highlighting issues such as organizational forgetting (Holan & Phillips, 2004; Kim, Haleblian & Finkelstein, 2011) and overconfidence in drawing from experience (Levinthal & March, 1993; Thomas et al., 2007). We examine these effects in the international context, thereby demonstrating the relevance of behavioral arguments in explaining international expansion.

LITERATURE

Scholars seeking to explain the international expansion of firms have developed several theoretical models. Internalization theory conceptualizes firms as internalized bundles of resources, in particular knowledge-based intangible assets, which choose to undertake FDI when the benefits of common ownership of domestic and foreign activities exceed those of external contracting relationships (Buckley & Casson, 1976). Many other authors agree that such proprietary assets or ownership advantages drive FDI (for reviews see Caves, 2007; Dunning & Lundan, 2008). Aharoni (1966) specifically identified information about foreign investment opportunities as a key factor inducing firms to look abroad: Managers who are made aware of specific investment opportunities abroad are more likely to consider international expansion overall, and in that specific area. Overall, the literature on international expansion indicates that firms must possess superior resources, and in particular knowledge-based resources, to internationalize. Knowledge-based resources in this context can be

procedural knowledge or know-how, or declarative knowledge including critical information about business opportunities.

But how do firms come to possess such knowledge-based resources? The literature has identified several ways in which alliances can provide access to resources and specifically knowledge beyond a firm's boundaries. Through deliberate sharing and the spillover of the partner's knowledge, a firm may obtain knowledge critical to its future competitive success (Hamel, 1991). Furthermore, studies have found a positive relation between alliance experience and various types of performance indicating the transfer of knowledge between partners (Anand & Khanna, 2000; Keil, Maula, Schildt & Zahra, 2008; Sampson, 2007; Villalonga & McGahan, 2005). Research on alliance experience also indicates that as firms become more experienced in alliances they become more likely to engage in subsequent alliances (Villalonga & McGahan, 2005) or related strategic actions (Zollo & Reuer, 2010). In an international context, such interactions between MNEs and host country firms are particularly useful in transferring foreign know-how to local firms (Eapen, 2012; Thomas et al., 2007). The idea that international experience aids firm internationalization is not new (Chang, 1995; Delios & Henisz, 2003), but few studies have examined how firms may obtain international experience *prior* to their own international expansion.

Once a firm decides to expand internationally, a number of questions arise. Foremost, the firm must decide on a location and on an entry mode (though not necessarily in that order). The Uppsala internationalization model attempts to explain the internationalization pattern of firms by describing it as an establishment chain in which commitment increases gradually (Johanson & Vahlne, 1977). Learning from experience is again a key component in this process; as firms gain experience with internationalization they become inclined to increase commitment and enter more distant countries (Erramilli, 1991).

The initial reluctance of firms to enter more distant countries stems from the difficulties associated with expanding into these countries. Studies on the liability of foreignness predict that foreign firms will be at a disadvantage compared to local firms in a host country due to various factors including spatial distance, unfamiliarity with the market and local environment, and regulatory restrictions (Zaheer, 1995). Moreover, foreign firms often lack relationship-specific and more general local knowledge relative to local firms (Johanson & Vahlne, 2009). As a result, firms entering a foreign country are not only subject to a liability of foreignness, but the absence of a strong network position also makes them subject to a liability of outsidership (Johanson & Vahlne, 2009). These liabilities are likely to be larger for more dissimilar (distant) host countries. As a result, only firms that are confident enough in their ability to overcome the liabilities of foreignness and outsidership should be expected to engage in FDI.

Accordingly, interfirm relations are becoming increasingly important to successful internationalization (Johanson & Vahlne, 2009). For firms investing abroad, local business partners in the host country are a source of relevant information, and linkages with local partners help reduce the liability of foreignness. Moreover, home country relationships have also been shown to affect internationalization (Elango & Pattnaik, 2007). Thus Guler and Guillén (2010) found that home country relationships significantly affect the international expansion of firms while Thomas, Eden, Hitt, and Miller (2007) demonstrated that experiential knowledge based on alliances with developed country firms increases the likelihood that Latin American firms expand abroad in turn.

To summarize the premises we draw from the literature: FDI choices – including whether (or when), where and how to expand (Brouthers, 2002; Flores & Aguilera, 2007; Mitchell, Shaver & Yeung, 1992) – depend on the knowledge-based resources a firm possesses, the information it has with respect to foreign investment opportunities, and its confidence in

its ability to overcome the liabilities of foreignness and outsidership. Firm relationships thus play a fundamental role in the internationalization process.

HYPOTHESES

Combining the literature on internalization, alliances, and internationalization we first posit that alliances between local firms and MNEs provide local firms with knowledge that can increase their propensity to conduct FDI and affect the entry mode chosen.

The nature of this knowledge can be diverse. First, it may be directly related to the activities of the focal alliance and deliberately shared between partners (Hamel, 1991; Lavie, 2006). It may also be knowledge accruing from the broader knowledge base of the partner firm, also referred to as nonshared resources (Lavie, 2006). Both shared and nonshared resources can be of a technological nature or pertain to things such as managerial capabilities, which are often scarce in emerging markets (Child & Rodrigues, 2005). Successful integration of these resources should allow local firms to upgrade their knowledge base, increasing both their domestic and foreign competitiveness and as such increase the propensity to invest abroad.

Second, through the alliance the local firm may learn about foreign markets. Such learning may pertain to specific business opportunities in the MNE's home country (Aharoni, 1966) or to awareness of differences in conducting business between the two countries, such as cultural or institutional differences, which form the basis of studies emphasizing the role of international experience in facilitating FDI (Delios & Beamish, 2001; Delios & Henisz, 2003; Erramilli, 1991). In fact, recent research has suggested that emerging market firms, through their collaborations with foreign MNEs were able to learn about foreign markets (Chin, 2013). When firms possess greater knowledge about foreign markets, they should be better able to assess what is required for successful international expansion, and thereby induce foreign direct investment.

Furthermore, given the difficulties associated with conducting FDI, the alliance may provide the local firm with knowledge about how to conduct FDI and how to organize international activities. In particular, it may yield knowledge about how to use a particular entry mode. Knowing how to engage in strategic alliances, for instance, has been demonstrated to induce future alliance formation (Gulati, 1995; Porrini, 2004; Villalonga & McGahan, 2005) and even acquisitions (Zollo & Reuer, 2010). Domestic collaborations with foreign MNEs should thus encourage the formation of additional collaborations, domestically or abroad.

Together then, we expect firms with domestic JV experience with foreign MNE's to be better able to identify and assess investment opportunities abroad, to conduct FDI, and prospectively to compete internationally. This should in turn induce the firm to consider international expansion. As a result, our baseline prediction is that, ceteris paribus, joint venture experience with MNEs in a firm's home country will generally increase the firm's propensity to conduct FDI, by either upgrading the firm's knowledge base or by increasing the firm's awareness of the requirements of foreign direct investment and thereby its confidence with respect to foreign direct investment.

> *Hypothesis 1: A firm's domestic JV experience with foreign multinational enterprises will have a positive effect on its propensity to invest abroad.*

These effects are especially relevant for firms that are based in emerging (and developing) economies. Although studies commonly assume that emerging-economy firms simply lack ownership advantages, a recent counterpoint emphasizes that they do possess ownership advantages, but that these tend to be of a different nature (Hennart, 2009; Hennart, 2012; Ramamurti, 2012; 2012). We argue here that through joint ventures with MNEs, local firms are able to obtain and further develop ownership advantages which in turn increase their

propensity to expand abroad. In fact, several studies on China have suggested that joint ventures with foreign MNEs induce the transfer of technologies or management practices to local partners (Child & Rodrigues, 2005; Chin, 2013; Liu, Wang & Wei, 2009). This may not only affect these local firms' domestic competitive position, but also increase their international competitiveness (Child & Yan, 2001; Guthrie, 2005; Meyer & Sinani, 2009).

In addition, many emerging market firms were eager to invest abroad, either in search of new technologies or to escape challenging home country institutions (Deng, 2007; Luo & Tung, 2007). However, this relationship is likely to depend on the type of knowledge obtained, the extent to which both parties are concerned about knowledge appropriation, the absorptive and transfer capacities of the firms (Martin & Salomon, 2003), alliance characteristics, and differences between countries that affect the potential for learning (Liu & Buck, 2007).

High-tech industries

The industry a firm is in may influence the ways in which it is able to benefit from domestic collaborations with foreign partners.

One of the types of knowledge that firms can gain access to via joint ventures with foreign MNEs is technological knowledge. The alliance literature has long been interested in understanding the ways in which firms are able to upgrade their technological knowledge base through the use of strategic alliances. Several studies have demonstrated that R&D alliances provide greater learning opportunities (Kim & Inkpen, 2005; Sampson, 2005), and that partners with greater technological capabilities than the focal firm tend to improve firms' innovative capabilities and as such are very attractive partners for smaller or weaker firms (Stuart, 2000). Mowery et al. (1996) found that equity joint ventures provide greater opportunities for learning about technologies than non-contractual agreements, resulting in a greater technological resources overlap after alliance participation. Moreover, it is well-known that the ability to

learn about technologies is contingent on the strength of the tie and level of trust between partners (Hamel, 1991; Kale, Singh & Perlmutter, 2000; Schoenmakers & Duysters, 2006). Few studies, however, have made a distinction between technological knowledge and other types of knowledge.

We believe learning about technologies to be particularly relevant for firms that operate in high-tech industries for a number of reasons. First, in the early stages of opening up of the Chinese economy, high-tech firms were particularly disadvantaged compared to their foreign counterparts. High-tech industries were underdeveloped and as such the upside to collaborating with foreign, more developed, partners was particularly large in these industries (Stuart, 2000). In fact, the Chinese government's policy that forced foreign MNEs to enter into a joint venture with a local partner was designed to induce learning and encourage the development of local technologies by Chinese firms[1].

Moreover, while early foreign investments in China were largely focused on original equipment manufacturing, Chinese firms increasingly took on additional responsibilities, upgrading their knowledge base and becoming increasingly sophisticated. Domestic JVs with foreign MNEs allowed Chinese firms to better understand the technological complexity of the products and learn about the demands of customers in foreign markets. Through collaborations with foreign MNEs, Chinese firms learned about foreign technologies, practices, and standards (Chin, 2013; Horng & Chen, 2008; Liu et al., 2009; Luo & Tung, 2007). Chin (2013), for instance, describes how through their production for foreign MNEs, firms like Lenovo and TCL were slowly able to upgrade their capabilities from original equipment manufacturing (OEM) to adding design functions and eventually developing their own brand names, becoming what Mathews (2006) calls, 'dragon multinationals'.

[1] The Almanac of China's Foreign Economic Relations and Trade for the years 1978-1985 outlines this policy in detail.

Tian (2007), in a study of FDI spillovers in China, found that positive technology spillovers were particularly pronounced when tangible assets were employed as intangible assets were difficult to copy by other domestic firms. However, when local firms form a joint venture with a foreign partner, they should have better access to the intangible assets that the foreign MNE brings in to the country. In those industries in which intangible assets are important then, the benefits of having a foreign JV partner should be greater.

Learning about technologies was actively encouraged by the Chinese government and therefore we expect that firms that were active in high-tech industries had ample opportunities to learn from their foreign partners, thereby upgrade their technological knowledge base that could form the basis of their international expansion efforts by increasing firms' global competitiveness. Compared to purely manufacturing or service industries, the potential for spillovers should be larger in high-tech industry because of the greater potential for learning and the greater complexity of interactions in high-tech industries. As such, we expect that domestic joint venture experience with foreign MNEs has a stronger influence on the propensity to invest abroad in high-tech industries than in other industries.

Hypothesis 2: The positive relation between a firm's domestic JV experience with foreign multinational enterprises and the propensity to conduct FDI is stronger for firms in high-tech industries.

Recency of experience

Not all experience is relevant. While the positive effects of experience on persistence of strategies (Villalonga & McGahan, 2005; Zollo & Reuer, 2010) and organizational performance (Anand & Khanna, 2000; Sampson, 2007) have been widely documented in the strategy and international business literature, they may be contingent on the recency of the

experience. As time passes, firms often engage in a process called organizational forgetting, which implies that over time the ability of firms to rely on specific experience decreases, often resulting in suboptimal decision-making (Meschi & Métais, 2013) In addition, managers have a tendency to rely on recent experience in making strategic decisions as more recent experience tends to carry greater weight in the formation of beliefs (Hogarth & Einhorn, 1992; Kim et al., 2011) and knowledge obtained through experience can be subject to obsolescence (Argote, Beckman & Epple, 1990). In the context of acquisitions, for instance, researchers have found that recent acquisition performance positively influences acquisition performance (Haleblian, Kim & Rajagopalan, 2006), more recent alliance experience has a greater impact on collaborative benefits in R&D alliances than less recent experience (Sampson, 2005), and that more recent exposure to competition increases the likelihood of firm survival (Barnett & Pontikes, 2008). Therefore, we should expect that experience obtained more recently should be more relevant to new ventures. The longer the time elapsed between experience and new ventures, the more difficult it becomes for firms to make use of what was learned and to correctly apply this knowledge to new situations.

The more recent the experience, the more likely a firm will be able to transfer what it has learned - and may still be learning - from that experience to a new situation and implement it accordingly (Haleblian & Finkelstein, 1999; Villalonga & McGahan, 2005). Firms that have recently engaged in a joint venture with a foreign MNE will then be more aware of the difficulties of collaborating with a foreign partner and the process of setting up a collaboration with a foreign partner and as such may be better prepared for international expansion.

At the same time, some studies have suggested that older experience may also be beneficial because it allows for deeper learning: through repetition, firms are able to perfect processes, reduce costs, and develop better routines (Katila, 2002; Katila & Ahuja, 2002; Nerkar, 2003). Deeper and broader knowledge allows firms to better adapt to change (Levinthal

& March, 1993). This deeper learning may take longer for firms to develop and requires greater levels of experience to avoid some of the pitfalls of learning, such as oversimplification. However, once firms are able to develop this deeper knowledge, they should be better able to assess the current environment and make informed decisions than firms that base their decision-making on more superficial learning.

Another complication in the application of experience arises in the form of managerial attention. While recent experience may have a greater effect in strategic decisions, managers face cognitive constraints in their ability to attend to multiple issues simultaneously (Levinthal & Wu, 2010; Penrose, 1959). Firms face capacity constraints in their investment portfolio and as such, when firms are very active domestically, they may find it hard to simultaneously attend to foreign direct investment. For instance, Shaver (2006) describes how the capacity effect may present an opportunity cost in mergers and acquisitions that significantly reduces the expected profits of such a merger or acquisition. Eggers (2012), in a study on the mutual funds industry, finds that the simultaneous introduction of new products in a wider array of categories reduces the overall new product quality because the firm's organizational capabilities cannot sustain the breadth of the product portfolio.

In our context, this implies that even though we expect greater levels of domestic joint venture experience to positively affect the propensity of firms to engage in foreign direct investment, when this experience is very recent firms may be too tied up in their domestic joint ventures to consider international expansion. In addition, more experience is particularly beneficial when the firm has time to digest the knowledge brought about through these joint ventures and has established routines accordingly. As such, we expect that the relation between domestic joint venture experience and the propensity to invest abroad is weaker when this experience is very recent.

Hypothesis 3: The positive relation between a firm's domestic JV experience with foreign multinational enterprises and the propensity to conduct FDI is weaker for more recent experience.

Entry Mode Knowledge

In addition to influencing the propensity to invest abroad, domestic joint venture experience with foreign MNEs may also influence the entry mode choice.

Through a joint venture with an MNE a local firm without international operations stands to learn about how the MNE organizes its international operations, its location choices, and entry mode choices. This experience may trigger the local firm to consider expansion of its own (Aharoni, 1966; Baum, Li & Usher, 2000). Moreover, first-hand experience in a cross-border joint venture increases the local firm's awareness of both the opportunities and potential difficulties that can arise when undertaking FDI, thus enabling a more complete and reliable assessment. Finally, domestic collaborations with foreign MNEs can increase the local firm's confidence in its ability to internationalize (Thomas et al., 2007).

In addition, a joint venture with an MNE will improve a local firm's familiarity with the conduct of a joint venture through first-hand experience, and its confidence that it can use joint ventures, specifically, to its benefit. Indeed, studies have found positive effects of alliance experience on the tendency of firms to engage in alliances and on the (innovative) performance of these alliances (Barkema, Shenkar, Vermeulen & Bell, 1997; Porrini, 2004; Villalonga & McGahan, 2005; Zollo & Reuer, 2010). When firms are actively engaging in joint ventures in their home country they may develop something called a dedicated alliance function (Kale, Dyer & Singh, 2002), a unit within the firm that is dedicated to 'capturing prior experience' (p. 750). Even in the absence of a dedicated alliance function, firms will become more comfortable in engaging in joint ventures as their joint venture experience increases.

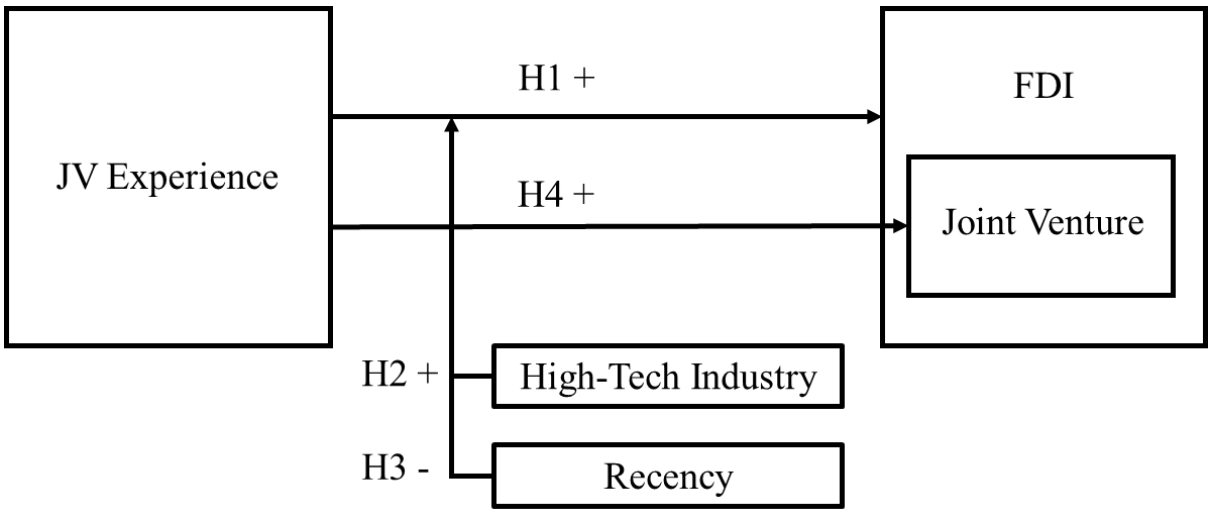
Based on such knowledge, the relation between MNE-local firm joint venture experience and international expansion by a local firm will be not just one of whether or not to invest (as per hypothesis 1) but also one of entry mode choice. A firm with local-MNE joint venture experience will be better aware and more confident in its ability to use a joint venture for its subsequent international expansion. We predict, therefore, that local firm-MNE joint venture experience encourages the use of the same joint venture mode when the local firm expands abroad, an effect that will increase as the local firm acquires experience from a great number of joint ventures with foreign MNEs.

Hypothesis 4: The propensity of a firm to enter a foreign country through a joint venture is positively related to its domestic JV experience with foreign multinational enterprises.

An overview of the main hypotheses can be found in figure 1.

FIGURE 1

Overview of the main relations



METHODS

Data and Sample

We tested our hypotheses on a sample of Chinese inward and outward FDI during 1978-2014. The dataset includes Chinese firms that entered into a joint venture with an MNE in China and subsequently either engaged in FDI or did not engage in FDI, but also Chinese firms that entered into JVs with non-MNE partners (Chinese or partners from Hong Kong, Macao, and Taiwan). Having such a broad sample is critical for the analysis as it allows us to disentangle the different effects of prior JV experience on international expansion and also to conduct multidimensional matching to strengthen inferences.

Inward FDI into China is captured through several databases. The primary data source is the Almanac of Foreign Economic Relations and Trade of China. This almanac, published by the Chinese Ministry of Commerce, has extensive information on China's trade relations with other countries and inward FDI from 1978 up to 1997. The focal firms included in the sample are all Chinese firms which did not have any foreign activities at the start of the period. During the period covered by the almanac, China required all foreign investors to arrange an equity joint venture with a local (Chinese) partner. Thus, the almanac is comprehensive with respect both to inward FDI for that period, and to Chinese firms' exposure to MNE JV partners. This explains why many studies on FDI and alliances have used the Almanac (e.g. Chang & Xu, 2008; Cuypers & Martin, 2010). Although JVs are but one form of alliances, our results are robust to specifying the subsequent mode of entry variable as either JVs only, or alliances more generally; thus, the setting is appropriate to test hypotheses on the general phenomenon of alliances. To capture post-1997 joint venture experience we rely on SDCs Alliances and

Joint Ventures database and on LexisNexis Corporate Affiliations and partly on the Almanac of Foreign Economic Relations and Trade of China[2].

What is more, in order to establish precedence it is necessary for the joint venture experience to accumulate prior to international expansion. In this respect the Chinese setting is ideal because the Chinese government severely restricted outward FDI until 1997. That is, Chinese firms could not develop FDI expertise by undertaking their own foreign expansion; rather, partnering with an MNE in China was a singular mean of developing pre-FDI expertise.

Sample Composition and Matching Design

The sample consists of two main components, each consisting of an equal number of firms. The first group includes those Chinese firms that engaged in joint ventures with foreign MNEs in China. Because we are interested in identifying the value of collaborating with foreign partners as opposed to collaborating with domestic partners, we compare this group to firms that have engaged in joint ventures with Chinese firms or with firms from overseas Chinese regions (Hong Kong, Macao, and Taiwan). The grouping of Chinese and overseas Chinese firms is warranted because HMT's status as special administrative regions implies that their investments in China are of a different nature than those made by other MNEs (Buckley, Clegg & Wang, 2002) and are not normally considered to be FDI in the traditional sense. In addition, the goal is to construct a sample of firms that is similar with respect to their propensity to engage in JVs such that we are able to compare the effects of foreign experience (experience with foreign MNEs) rather than domestic experience (with HMT or Chinese firms).

Using coarsened exact matching we match the group of firms that only engaged in joint ventures with foreign MNEs to an equal group of firms that only engage in joint ventures with

[2] This database captures all foreign direct investment in China in the period 1978-1996. For the period of 1997-2001 only the 500 largest joint ventures were included.

Chinese firms. Matching was based on industry (measured by the 6-digit NAICS code), location (province, special economic zone, and type of region), ownership (whether or not a firm is public and three different measures of state ownership), and founding. These firm-specific variables are believed to influence the probability of a firm collaborating with a foreign partner.

The resulting sample of Chinese firms was converted into a panel dataset, which included 2 groups of 1,329 firms, bringing the total number of firms in the sample to 2,658.

Measures

Dependent variable. Because we employ a Cox proportional hazard model to test the first three hypotheses the dependent variable is the hazard of investing abroad in period t conditional on having survived up to period t. Firms were considered to be at risk of investing abroad from 1997, as this was the first year that the Chinese government loosened restrictions on outward FDI. To test hypothesis 4 we use a binary variable that takes the value of 1 if entry occurred through an alliance and 0 otherwise. This second binary dependent variable facilitates interpretation of the estimated effects.

Independent variables. The main independent variable is *JV Experience*, which is a count of the number of JVs a Chinese firm had with foreign firms in the period 1978-2014.

The effect of being in a high-technology or knowledge-intensive industry is captured by a dummy variable, called *High-tech*. We based our definition on high-tech industry on the classification provided by the US Bureau of Labor Statistics[3]. Our measure of high-tech industry is a binary variable that takes a value of 1 if the firm's main activities[4] are in one of the industries classified as high-tech by the US Bureau of Labor Statistics and a value of 0

[3] This is based on the list of NAICS codes provided by the National Bureau of Labor Statistics in Decker (2005).
[4] As measured by the firm's main NAICS code.

otherwise. This classification has been used in a number of studies (Liu, Hodgkinson & Chuang, 2014)[5]. To test hypothesis two this variable was interacted with our JV Experience variable. The recency of the firm's joint venture experience, *Years Since Last JV*, is measured by counting the number of years since the last domestic joint venture. Time elapsed since the last occurrence of an event has been frequently used in the management literature as a measure of the recency of experience (Fern, Cardinal & O'Neill, 2012; Villalonga & McGahan, 2005). Greater values of this variable indicate a longer period between the last JV formation and the current year. This variable was interacted with our JV experience variable to test hypothesis 3.

Controls. We control for several features of the JV experience in China.

To assess the effect of state ownership we create the variable *SOE*, a dummy variable that takes on a value of 1 if the firm was government owned (King & Sznajder, 2006; Liang, Ren & Sun, 2014). This dummy variable was created by manually identifying whether or not a firm was state-owned[6]. We also controlled for a more indirect role of the Chinese government by including a dummy for those firms that are located in cities that are under direct control of the Chinese government, and for direct control by including a dummy variable for firms that are directly under the control of the Chinese State-owned Assets Supervision and Administration Commission of the State Council.

To further control for ownership characteristics, the effect of being a public firm is captured through a dummy variable, *Listed*, that takes on a value of 1 if a firm is listed on one of the main stock exchanges (Shanghai, Shenzhen, Hong Kong, New York). This measure is consistent with other studies seeking to control for ownership structure (Wang, Hong, Kafouros

[5] As a robustness check, we also reran our models using the OECD high-tech industry classification that is based on firms' main ISIC codes. The concordance for ISIC and NAICS codes was obtained through the US Census Bureau.

[6] Given the strong influence only a small government ownership percentage can have on the incentives of firms to engage in foreign direct investment, a firm was considered to be state-owned if the Chinese government possessed any ownership in the firm. This pertains to all ownership at the central government, province, and municipality levels. Data on this was obtained from annual reports, company website, Chinese government data, and SDC.

& Wright, 2012). We obtained these data from lists of firms listed on the individual stock exchanges that are available on their respective websites if these data were not already provided through for instance SDC or LexisNexis Corporate Affiliations. We also control for the overall investment climate by including a variable called WTO that takes on a value of 1 for years after China's entry to the WTO in 2001.

We also include several fixed effects to capture firm heterogeneity in the FDI models. First, period effects capture differences over time in JV experience and the investment climate. Second, because FDI characteristics may vary between industries, we included industry effects based on the four-digit NAICS code of the Chinese firm. Finally, different locations within China may be subject to different investment climates and may yield different opportunities for engaging in FDI. For instance, the Chinese government designated several regions as special economic zones (SEZs), which were subject to different regulations and funding[7]. We thus created dummies for the different provincial level divisions, encompassing the most important provinces, municipalities, and autonomous regions in China. The way we control for industry and location effects is in line with the approach adopted by Zhang et al. (2010) .

Empirical Estimation

We estimate the propensity of firms to invest abroad by specifying a Cox Proportional Hazard model. In addition to the coarsened exact matching that was conducted to obtain a subsample of comparable firms, we also include parent firm fixed effects in our model.

One source of endogeneity in this study stems from the fact that Chinese firms may have self-selected into domestic joint ventures for the purpose of preparing for international expansion. Chinese firms interested in international expansion could have self-selected into

[7] Special Economic Zones: Shenzhen, Zhuhai and Shantou in Guangdong Province, Xiamen in Fujian Province, and all of Hainan province. Coastal cities: Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang and Beihai.

joint ventures with foreign MNEs in order to gain access to knowledge they could use in their internationalization efforts or could have been selected by the Chinese government as a JV partner for this purpose. While the Chinese government has played an active role in JV formation, its primary purpose was to further the development of local Chinese firms, not to encourage outward foreign direct investment. In addition, there exists little evidence that the Chinese government necessarily chose the strongest Chinese firms to engage in joint ventures with foreign MNEs. As such we do not believe self-selection to significantly bias our results.

To test hypothesis 4, we further correct for the potential that the sample firms may have self-selected whether to enter into a JV in the first place (in China), we estimated a Heckman-Lee model using pre-1997 industry growth as an instrument (Shaver, 1998). Even though industry growth may affect the propensity of firms to engage in JVs, measured prior to 1997 it could not have had an effect on outward investment as firms were not allowed to invest abroad at that time. Pre-1997 industry growth should have attracted inward FDI by making the host country more attractive to foreign investors seeking to explore the Chinese market and thereby should have induced foreign investors to form JVs with local Chinese partners. Even if foreign firms would have been allowed to enter through different entry modes, they would have preferred joint ventures over alternative entry modes due to their speed advantages in high-potential markets (Cui & Jiang, 2009). As such, it is an important predictor of JV formation in our sample, but it should not influence the propensity of firms to invest abroad because in that period Chinese firms were not allowed to invest abroad. Our setting thus present a semi-natural experiment to study the effects of inward and outward FDI. Results of this first stage, including supportive evidence about the instrument, are not reported here for lack of space but are available upon request. The inverse Mills ratio from this first stage was subsequently included in the second stage probit estimation (Lee, 1983).

RESULTS

Descriptive statistics and pairwise correlations for each sample are provided in Table 1.

The coefficients of the estimated cox proportional hazard models can be found in Table 2. Model 1 tests the effect of JV experience on the propensity of firms conduct FDI. The coefficient for JV experience is significant and positive, in line with the baseline idea that JV experience with foreign MNEs increases the propensity of firms to conduct FDI. An inspection of the average marginal effects reveals that the economic significance of this effect is substantial. In fact, a one percent increase in JV experience is associated with a predicted increase of 3% in the proportional hazard of conducting FDI in a given year.

We examine the degree of multicollinearity by investigating the variance inflation factors (VIFs) in our models. All values are well below the cutoff value of 10[8], leading us to conclude that multicollinearity is not a serious concern for our models.

The extent to which firms in high-tech industries benefit more from having domestic experience is tested in model 2. Here we find no evidence to support hypothesis 2. The interaction coefficient for JV experience and high-tech industry is statistically insignificant, indicating that the relationship between domestic experience and the propensity to invest abroad is not influenced by whether firms operate in technology intensive industries or not. The interaction between domestic JV experience and high-tech industry is plotted in figure I of Appendix I. This figure suggests that there are differences in the effects of domestic JV experience across industries, and therefore this relationship warrants further attention. One reason for the lack of statistical significance for the high-tech industry interaction in our models may be due to the crude measurement of the variable, and the possibility of outliers influencing the results. Follow-up research may be able to address these issues through better measurement and split-sample analysis.

[8] This corresponds to a tolerance greater than 0.1.

Model 3 examines how important the recency of domestic joint venture experience is. Here the interaction between domestic JV experience and the years since last JV variable is included. While the main effect of years since last JV is statistically significant and negative, indicating that the less recent the experience, the less likely the firm is to invest abroad, the interaction term is statistically significant and positive, indicating that having more domestic experience is less useful if this experience was relatively recent. We thus find strong support for hypothesis 3. Our results indicate that even though more recent experience is more likely to induce FDI, when firms have a large number of joint ventures and these are recent, significant managerial resources will be attracted to the successful operation of the joint ventures domestically. As such, management is likely to be too preoccupied with their domestic activities to consider international expansion. Conversely, while less recent experience may not induce foreign direct investment, when firms engage in a greater number of joint ventures domestically the propensity to invest abroad becomes larger, suggesting that deeper learning that can encourage foreign direct investment takes more time to develop. This is in line with what some scholars have suggested; that Chinese firms took time to develop and build the capabilities necessary for successful foreign direct investment (Child & Rodrigues, 2005; Sun, 2009).

TABLE 1

Descriptives and Pairwise correlations

Variables	Mean	S.D.	Min.	Max.	1	2	3	4	5	6	7	8	9
1. FDI	0.05	0.21	0	1	1								
2. JV Experience	1.12	0.54	1	12	0.37*	1							
3. State Ownership	0.11	0.31	0	1	0.05*	0.07*	1						
4. Listed	0.02	0.13	0	1	0.28*	0.21*	0.01	1					
5. Years Since Last JV	8.8	9.95	0	34	-0.32*	-0.26*	-0.03*	-0.20*	1				
6. High-tech Industry	0.04	0.20	0	1	0.07*	0.02*	0.02*	0.05*	-0.06*	1			
7. Post-WTO Entry	0.54	0.50	0	1	-0.07*	-0.03*	-0.01	-0.01*	0.61*	-0.00	1		
8. GDP Growth	9.77	2.64	3.8	14.2	-0.01*	-0.00	-0.01	0.00	0.11*	0.00	0.11*	1	
9. FDI Inflows	0.00	1	-1.49	1.92	-0.09*	-0.04*	-0.01*	-0.01*	0.68*	-0.00	0.75*	0.17*	1

TABLE 2
Results of Cox Proportional Hazard Analysis of the Propensity to Conduct FDI

	Model 1	Model 3	Model 4	Model 5
JV Experience	0.3929**	0.3857*	0.6390***	0.6135**
	(0.1395)	(0.1525)	(0.1866)	(0.1931)
State Ownership	-0.0362	-0.0339	-0.0195	-0.0074
	(0.3568)	(0.3552)	(0.3433)	(0.3413)
Listed	1.3157**	1.3006**	1.4171**	1.3627**
	(0.4077)	(0.4162)	(0.4455)	(0.4493)
Years since last JV	-0.1158***	-0.1161***	-0.1718***	-0.1752***
	(0.0199)	(0.0200)	(0.0271)	(0.0281)
High-Tech Industry	25.3969***	25.1581***	22.8247***	24.9456***
	(2.1203)	(2.1105)	(2.4964)	(2.4945)
Post-WTO Entry	1.1018*	1.1018*	0.9639*	0.9681*
	(0.4540)	(0.4538)	(0.4422)	(0.4398)
GDP Growth	0.1164	0.1146	0.1337	0.1250
	(0.1700)	(0.1703)	(0.1678)	(0.1684)
Inward FDI	0.8084**	0.8090**	0.7482**	0.7429**
	(0.2721)	(0.2721)	(0.2701)	(0.2712)
JV Experience x High-Tech Industry		0.0630		0.2805
		(0.3037)		(0.3461)
JV Experience x Years since last JV			0.0424***	0.0441***
			(0.0127)	(0.032)
Location Effects	Included	Included	Included	Included
Industry Effects	Included	Included	Included	Included
Period Effects	Included	Included	Included	Included
Parent Firm Effects	Included	Included	Included	Included
N	61,143	61,143	61,143	61,143
Log-Pseudolikelihood	-1112.497	-1112.4648	-1106.0193	-1105.3223
Akaike's Information Criterion	3080.994	2490.9296	2486.0387	2767.2288

Robust standard errors in parentheses. P-values: † p < .10; * p < .05; ** p < .01; *** p < .001

To further examine the role of the recency of experience on the propensity of firms to invest abroad we also estimate a linear probability model[9]. Here we find that the main effect of years since last JV is not statistically significant, while the interaction effect of domestic joint venture experience and years since last JV is statistically significant and positive, providing further support for hypothesis 3. An examination of the marginal effects reveals that for every one-year decrease in years since last JV the positive effect of domestic joint venture experience on the propensity to invest abroad increases with 3%. These results suggest that recent experience may not be beneficial in the presence of high levels of experience, or even reduce the likelihood of investing abroad (as the results of our Cox proportional hazard model suggested), most likely because of carrying capacity issues. However, the more domestic joint venture experience the firm has, the more time it requires for the firm to 'digest' these joint ventures. A plot of the interaction effect of domestic JV experience and the recency of experience can be found in Appendix I.

Among control variables, we find that listed firms are significantly more likely to invest abroad. Furthermore, after China entered the WTO Chinese firms were more likely to invest abroad, most likely due to loosening of restrictions on and sometimes even active encouragement of outward foreign direct investment. Our analyses also demonstrate that inward FDI had a positive and separate effect on the propensity of Chinese firms to invest abroad, most likely due to vicarious learning effects (Gu & Lu, 2011) or increased domestic competitive pressures that forced Chinese firms to look for new markets in other countries (Child & Rodrigues, 2005).

To test Hypothesis 4 we estimated a separate logit model of the effect of JV experience and state ownership on the propensity of Chinese firms to choose a joint venture entry mode rather than an acquisition or a greenfield subsidiary. The results estimations are presented in

[9] Details of this analysis are available from the authors.

Table 3. Model 1 examines the main effect of JV experience on the propensity to use a joint venture. The coefficient for JV experience is statistically significant and positive, which is in line with Hypothesis 4. Examination of the average marginal effects[10], the effects of the independent variables calculated for each observation in the data and subsequently averaged, indicates that for every additional previous JV the probability of using a joint venture to invest abroad increases by about 12.3%. These results imply that greater familiarity with this entry mode encourages entry via a joint venture, thus providing further support for hypothesis 4.

In Table 3, only two of our control variables are statistically significant. GDP Growth is associated with a greater propensity to use a joint venture, perhaps due to the speed advantages that joint ventures offer over alternative entry modes or because of the greater attractiveness of Chinese firms as joint venture partners associated with growth of the Chinese economy. We also find that inward foreign direct investment is associated with a lower preference for joint ventures. This finding strengthens our support for hypothesis 4 by demonstrating that only direct experience with foreign partners increases the propensity of Chinese firms to use a joint venture as a means of international expansion.

[10] See Hoetker (2007): this refers to the method advocated by Train (1986) in which the responses for each observation are calculated and subsequently averaged, rather than setting the other variables at their mean. This method is preferable because it is unlikely that any single observation has the mean value of all variables.

TABLE 3
Results of Probit Regression of the Propensity to Use a Joint Venture

Variables	Model 1
JV Experience (H5)	0.9643*
	(0.4722)
SOE	1.2352
	(2.7344)
Listed	0.6837
	(1.5128)
Years Since Last JV	0.2889*
	(0.1187)
High-Tech Industry	3.5252
	(3.3431)
Post-WTO Entry	-1.9369***
	(0.4553)
GDP Growth	0.0506†
	(0.0262)
Inward FDI	-2.0420**
	(0.7079)
Inverse Mills Ratio	-0.1344
	(0.6578)
Constant	-3.7264
	(2.9580)
Industry effects	Included
Location effects	Included
Period Effects	Included
Marginal Effects JV Experience	0.1231**
	(0.0473)
N	745
Log-Pseudolikelihood	-295.0776
AIC	662.1552

Robust standard errors in parentheses.
P-values: † p < .10; * p < .05; ** p < .01; *** p < .001

Robustness checks

Several robustness checks were conducted. First of all, we applied propensity score matching to create another sample and reran our analyses on this different sample to examine the robustness of our results along different matching approaches. Results were unchanged and as such we only report results of the analyses run on the sample obtained through coarsened exact matching. We also changed the way matching was done by identifying the treatment as having engaged in joint ventures with foreign partners and Chinese partners, rather than only foreign partners. Treated firms would have at least some experience with foreign partners but could also have engaged in joint ventures with firms from China, Hong Kong, Macao, and Taiwan (in the analyses above treated firms only have experience with foreign partners but not with 'domestic' partners). Here the untreated group consisted of firms that only had joint venture experience with firms from China, Hong Kong, Macao, and Taiwan. Changing the matching design or the treatment did not change our results.

Similarly, a two-stage cox hazard model was tested in which we first estimated the propensity of firms to engage in joint ventures and included this propensity score in the second stage analysis. We found no significant differences in our results. Details of these analyses are available from the authors.

Because state ownership can manifest itself at different levels we used three alternative measures for state ownership. We included a dummy variable for whether or not a firm was under the direct control of the State-owned Assets Supervision and Administration Commission (SASAC), a variable that measures the distance of the firm's headquarters to Beijing, and a dummy variable that takes on a value of 1 if the firm is located in a directly controlled municipality. While these alternative variables capture different levels of state-ownership we believe our current measure to be most accurate. Alas, inclusion of these alternative variables did not alter our results.

Since regional differences may influence the accessibility of the region, the economic development of the region, and the level of control exerted by the Chinese government we included a number of variables. First of all, we include a dummy variable that takes on a value of 1 if the firm is located in a special economic zone (SEZ). These regions were designated as special regions by the Chinese government in 1978 and enjoyed several benefits that could positively influence the development of firms in these zones (Cuypers & Martin, 2010). We also control for whether or not a firm was located in a coastal region (Coastal Region), or an autonomous region (Autonomous Region). Our analysis of the propensity to invest abroad revealed that firms in municipalities that are under the direct control of the Chinese government are more likely to invest abroad, perhaps indicating greater support for foreign direct investment, or the desire of firms to escape the tight control of the Chinese government, as some have suggested. The exact opposite applies to minority regions like Tibet, Xinjiang, and Inner Mongolia, where we find that firms are much less likely to invest abroad. This may be due to their generally less developed economies and often-remote location or may represent inferior access to resources and incentives from the Chinese government to invest abroad. Inclusion of these variables did not change our results and did not contribute to greater model fit and as such we excluded these from our main analyses.

Finally, we examined the role of other macro-economic forces in driving the decision to invest abroad and the preference for specific entry modes by including measures of Chinese industry growth in the firm's primary industry, Chinese imports, and Chinese exports. These variables were all lagged 1 year and standardized. Inclusion of these variables did not change our results or improve model fit but raised multicollinearity concerns as evidenced by high VIF values for the Inward FDI and GDP Growth variables. We therefore excluded these from our analyses.

DISCUSSION

Following our premise and theory, our results suggest that domestic joint venture experience can significantly affect the foreign expansion decisions of firms. Not only can collaboration with MNEs in the home market increase firms' propensity to expand internationally, but it also affects the choice of entry mode. These results provide support for the idea that MNEs provide access to knowledge that can drive international expansion.

Moreover, our results indicate that the extent to which firms are able to benefit from this domestic experience depends on a number of factors. First, our results clearly show that the more recent the firm's experience, the more likely the firm is to invest abroad, thereby emphasizing the need for current experience. This finding is in line with the literature on organizational learning that identifies important caveats with respect to (the benefits of) experiential learning (Argote & Miron-Spektor, 2011; Haleblian & Finkelstein, 1999) and specifically learning from alliances (Lavie, 2006; Zahra & George, 2002). However, when firms are actively involved in a greater number of domestic joint ventures, the positive effects of joint venture experience on the propensity to invest abroad are reduced. We argue that this is due to capacity constraints that firms face in their domestic and foreign strategies. When firms are actively pursuing domestic joint ventures, it may be difficult to simultaneously engage in foreign direct investment. Moreover, these findings suggest that effective learning from domestic joint ventures requires time. The idea that emerging market firms need time to develop their strategic capabilities through their interactions with foreign MNEs is supported by several researchers who have described how firms such as Lenovo or TCL were able to upgrade their knowledge bases through domestic collaborations with foreign MNEs and slowly prepare for international expansion (Chin, 2013; Sun, 2009). In our field work we found that

several of the firms that had been exposed to domestic JVs with foreign partners were using these collaborations to gain momentum and develop their capabilities in order to expand abroad.

Interestingly, we find no significant industry-specific effects, implying that the benefits from having domestic joint venture experience accrue to firms across industries. What drives the relation between domestic joint venture experience and the propensity to invest abroad then, appears not to be contingent on the knowledge-intensity of the industry or the complexity of critical knowledge in this industry. Rather, these learning effects apply to firms in industries ranging from agriculture and natural resources, to pharmaceuticals, semiconductors, and services. These findings suggest that technological knowledge is not a main driver of the relation between domestic JV experience and the decision to invest abroad. This may in part be a reflection of the crudeness of our high-tech industry variable and is something that can be addressed in follow-up research.

The analysis of the entry mode choice reveals a positive relation between a firm's joint venture experience and the propensity to use a joint venture. This implies that through a joint venture with an MNE a local firm may learn how to engage in a joint venture abroad, although we cannot tell from this evidence whether this reflects a stronger potential for benefiting from a joint venture abroad or merely an increase in confidence. This finding is in line with extant studies on the role of alliance experience that argue that when firms have engaged in strategic alliances before they should be better prepared to engage in subsequent alliances (Hoang & Rothaermel, 2005; Kale et al., 2002; Villalonga & McGahan, 2005; Zollo & Reuer, 2010), which is often translated into superior alliance performance or overall firm performance (Anand & Khanna, 2000; Kale et al., 2002). Our findings on the entry mode choice suggest that learning how to engage in joint ventures is one of the ways in which domestic JV experience influences the international expansion process.

In our field work we found that those firms that had engaged in several joint ventures with foreign MNEs were particularly convinced that joint ventures were the best way to invest abroad. Having experienced the benefits of having a foreign partner that can bring in additional knowledge, and having been able to provide foreign partners with an understanding of the Chinese market, they emphasized the necessity of using a local partner. One CEO even told us that joint ventures were the 'only way to go' and that without a local joint venture partner he would not even consider investing in a foreign country.

Implications

These results have several implications. First, local firms seeking to internationalize may obtain relevant knowledge through pre-expansion joint ventures with MNEs. Joint venture experience may significantly affect the potential for international expansion by the local firm and, we surmise, the potential success of these ventures. Local firms must also be aware of the different types of knowledge they may be able to extract from their joint venture partners and the ways in which this may benefit them in unanticipated projects, such that they can optimize knowledge spillovers from these joint ventures. For instance, our results clearly suggest that firm learn how to engage in joint ventures through their domestic joint ventures with MNEs. For firms seeking to expand internationally then, domestic JVs with foreign MNEs may provide a useful way to familiarize themselves with joint ventures. Clearly then, one of the types of knowledge that firms gain through domestic joint ventures with foreign MNEs is what we can call 'joint venture knowledge' – having first-hand experience in joint ventures with foreign MNEs allows local firms to understand the challenges of forming joint ventures with foreign partners and this will enhance their ability to use joint ventures as a means of foreign direct investment.

Our results also provide insight into the circumstances under which firms will be able to benefit from domestic experience. In particular, our results on the role of the recency of experience identify some behavioral challenges associated with learning from alliances. While recent experience may generally be more beneficial as it is easier for firms to recall and may be more in line with the firm's current environment, firms face a tradeoff: if the firm is actively involved in domestic joint venture experience, it may have limited resources to engage in foreign direct investment simultaneously. Moreover, firms must be aware of the pitfalls of relying on recent experience only. We find that the benefits of greater domestic experience are stronger when this experience is less recent, suggesting that deep learning requires more time.

At the same time, our results suggest that technological knowledge is not an important driver of the relationship between domestic JV experience and the propensity to invest abroad. While much of the literature on FDI spillovers and learning from alliances has focused on the role of technological knowledge, we find little evidence on learning about technologies. However, our main effect seems to suggest that even in the absence of learning about technologies, other things can be learned. Through domestic JVs with foreign MNEs, local firms can prepare for international expansion by potentially learning about foreign markets, upgrading their managerial capabilities, and learning how to engage in joint ventures (Chin, 2013; Horng & Chen, 2008; Liu et al., 2009). As such, our results suggest that local partners must be sensitive to the potential benefits of these domestic collaborations.

These results also call for attention to foreign MNEs' awareness of the effect of their collaborations on host country firms' future strategies. An important concern for joint venture partners is reducing involuntary knowledge spillovers. However, spillovers of (for instance) general market knowledge and entry mode knowledge, though valuable to an inexperienced local, do not pose direct threats to an MNE's competitive position and can hardly be avoided. To the extent that they strengthen the local partner, this may make that firm a rival, but also

perhaps a broader ally, on a more global scale. Meanwhile more, the extent to which more sensitive technological spillovers occur depends on the absorptive capacity of local firms, which often is not sufficient to be of great concern to an MNE (Zhao, 2006). MNEs thus need to assess the risk of knowledge spillovers versus their latent benefits.

Contributions

This study yields several contributions. First, it is one of the first to examine how alliances with MNEs in a firm's home country may induce internationalization. This provides a starting point for further assessing how MNEs can be a source of valuable knowledge for local firms well beyond their home country, but specifically pertaining to FDI choices (rather or in addition to, say, technology). While it is well-known that firms frequently possess firm-specific advantages that allow the firm to invest abroad (Buckley & Casson, 1976; Caves, 2007; Dunning, 1979; Hymer, 1976), where these firm-specific advantages come from is poorly understood. Our results suggest that domestic collaborations with foreign MNEs may provide a useful way for firms to upgrade their knowledge base and thereby enhance the firm-specific advantages that are fundamental to the international expansion decision. We thus add to the literature on internalization by shedding light on the origin of firm-specific advantages, particularly in situations in which relevant knowledge is scare in the firm's home country.

Second, this paper addresses the liability of foreignness and the liability of outsidership (Johanson & Vahlne, 2009; Zaheer, 1995). One way for firms to reduce the difficulties associated with international expansion is by collaborating with MNEs in the home country. Knowledge about foreign markets, and what is needed to compete in them, should make firms that have engaged in joint ventures with MNEs better able to anticipate and possibly attenuate problems inherent to foreignness in a target country. They also inherently prepare the firm for coping with the liability of outsidership. We thus yield insights into the ways in which firms

can prepare for international expansion prior to investing abroad, thereby speeding up the internationalization process and addressing some of the issues associated with the liability of foreignness. We thereby identify important contingencies for the Uppsala model of internationalization, which has largely ignored the role of home country firm-heterogeneity in influencing the pace of internationalization and the entry mode choice.

Third, the context studied in this paper adds to our understanding of emerging economy MNEs. Given their increasing presence in global markets, more research is needed to understand the ways in which these MNEs differ from other MNEs. This study finds support for the idea that Chinese firms, by engaging in joint ventures with MNEs seeking to enter China, were able to obtain knowledge that influenced the likelihood and scope of their subsequent international expansion. Many scholars have stressed the ways in which emerging market multinational enterprises differ from those in more developed markets (Child & Rodrigues, 2005; Guillén & Garcia-Canal, 2009; Luo & Tung, 2007; Ramamurti, 2012). Our study explains how emerging market firms are able to obtain access to relevant knowledge and speed up the internationalization process. Thereby it adds to our understanding of the drivers of internationalization of emerging economy firms. Moreover, we demonstrate the relation between industry, recency of experience, and the way in which these complicate the internationalization of firms. Again this is highly relevant for many emerging-market firms.

Our study also adds to the behavioral theory of the firm by demonstrating how the recency of domestic experience can both induce and constrain foreign direct investment, depending on the level of experience. Our results suggest that deep learning may be more conducive to prepare for international expansion and future research would be well-served by an investigation of the long-term implications of these different learning mechanisms. In addition, we demonstrate the relevance of a behavioral perspective in understanding learning effects in an international context and the need for international business scholars to account

for these aspects in studying things such as the role of international experience. While much research has been conducted on the role of international experience, the consensus is that international experience is beneficial in inducing foreign direct investment and subsidiary performance (Delios & Beamish, 2001; Erramilli, 1991; Johanson & Vahlne, 1977). However, our results suggest that even in an international context the challenges of learning from experience must be addressed.

As a set, our results are consistent with internalization theory and specify this theory regarding the role of knowledge-based assets and specifically pre-FDI learning from alliances. As such they also show the promise of a tighter integration of internalization and knowledge-based perspectives (Martin & Salomon, 2003). They also support a behavioral perspective that sheds light on organizational learning from foreign MNEs. As such we elaborate a more contingent theory of the effect of behavioral aspects on FDI and entry mode choices (Thomas et al., 2007), which extends the behavioral theory of the firm.

Limitations

This study is subject to several limitations. First, the data used leave us unable to determine the relative importance of the potential types of knowledge transferred from the MNE to its local partner. Although we found evidence consistent with effects of foreign market and entry mode knowledge and largely inconsistent with the effects of technological knowledge, inquiry into the prevalence of other types of knowledge will require additional analyses.

Moreover, even though the Chinese setting is particularly suited for the purpose of this paper, it is subject to some drawbacks. In the current setting MNEs entering China were forced to form a JV with Chinese firms even though this may have a suboptimal mode of entry. Additionally, outward FDI was restricted up to 1997, implying that Chinese firms seeking to

source foreign knowledge were limited in their ability to do so. Further research would be needed to examine the role played by these regulations.

While our database is unique in that it captures various stages of the opening up of the Chinese economy and is a combination of many different databases, it is limited in the availability of firm-specific variables that cover the full period of 1978-2014. We therefore have to rely on more macro-level variables that complicate the identification of underlying mechanisms. Future research could supplement the analyses in this paper by examining the role of firm-level variables, such as technological capabilities and the level of state-ownership, on the relation between domestic joint venture experience and the international expansion of emerging market firms.

In particular, our lack of significant results for the high-tech industry variable may be due to the coarseness of the measure. Within every high-tech industry there are leader and laggards, firms with greater technological capabilities and firms with few and these are likely to influence foreign direct investment choices (Berry, 2006). The absorptive capacity of local firms is likely to influence the ability of local firms to benefit from the knowledge brought in by foreign MNEs, as several studies on FDI spillovers have suggested (Wei & Liu, 2006; Zhang et al., 2010). We unfortunately were unable to account for absorptive capacity and believe that follow-up research will be able to shed more light on the role of absorptive capacity and firm-level technological capabilities on the effects of domestic joint venture experience on the propensity to invest abroad.

Future Research

This study has several other implications for future research. First, future research should examine effects of home country joint venture experience with MNEs on the performance of foreign ventures. This could reveal the extent to which knowledge derived from these

collaborations makes local firms better able to expand internationally or merely more prone to do so. On this basis, consequences on parent firm performance would also be worth examining.

The role of absorptive capacity on the type of knowledge transferred between MNEs and local firms also warrants further investigation. Does the type of knowledge that spills over to the local firm depend on the level of a local firm's knowledge base? And how does this in turn affect the ability and willingness of both partners to share knowledge? This paper may provide a starting point for more rigorous investigation into the different types of MNE-local firm knowledge transfer, and into the boundary conditions that guide this transfer. More detailed analysis may also be able to uncover the extent to which our insignificant findings with respect to our high-tech industry variable is an outcome of the way it is measured.

Additionally, further research could investigate whether the observed relations are country-specific. Naturally, examination beyond China would be useful, though even if China were an exception, its exceptional size and growth make it well worth studying. More broadly, examination of the way in which knowledge transfer affects the performance of local firms in developing and least developed countries, where absorptive capacity and relative technological differences between countries may play a larger role, could prove fruitful.

The MNE side of the story also warrants further investigation. One of the main problems with FDI into developing countries is a lack of transparency, and local partners may provide a way for MNEs to obtain otherwise unavailable knowledge (Hennart, 2012). Likewise, MNEs may be able to leverage knowledge gained in different countries to tailor their future ventures in similar countries. More research is needed to examine to what extent MNEs are able to take countervailing advantage of the knowledge gained through alliances with local firms. Moreover, future research could investigate the extent to which FDI by local firms affects the MNE's domestic or global position. Notwithstanding our evidence that the MNE's

home country becomes an attractive host market for its partner firm, these competitive effects would be best examined in a multi country setting.

Last, this study calls for more careful inquiry into the role of state ownership. Whereas we have made a start towards identifying the effects of state ownership on internationalization, our results indicate the necessity for a deeper understanding of the role of state ownership and its relation to learning, legitimacy concerns, and the motivation to invest abroad. Future research could further examine the complexities that state ownership adds to the internationalization and performance of private firms from SOE-dominated markets.

CONCLUSION

This study has started to shed light on the way in which joint ventures with MNEs in a firm's home country can help local firms prepare for international expansion, as well as on how these joint ventures affect the entry mode chosen by these firms, and the distinct role of governance and industry in these internationalization processes. It thereby adds to the literature on FDI and strategic alliances with implications for emerging economy firms and established MNEs alike. Further research in this area is thus well warranted.

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APPENDIX I

FIGURE I

Interaction Effect of JV Experience and High-Tech Industry

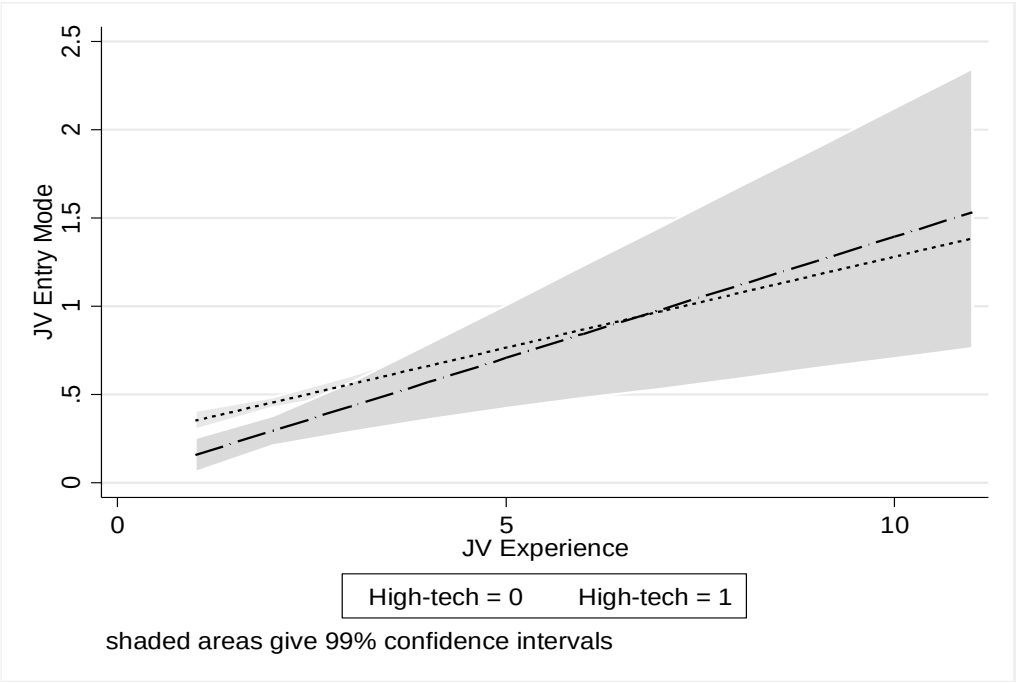
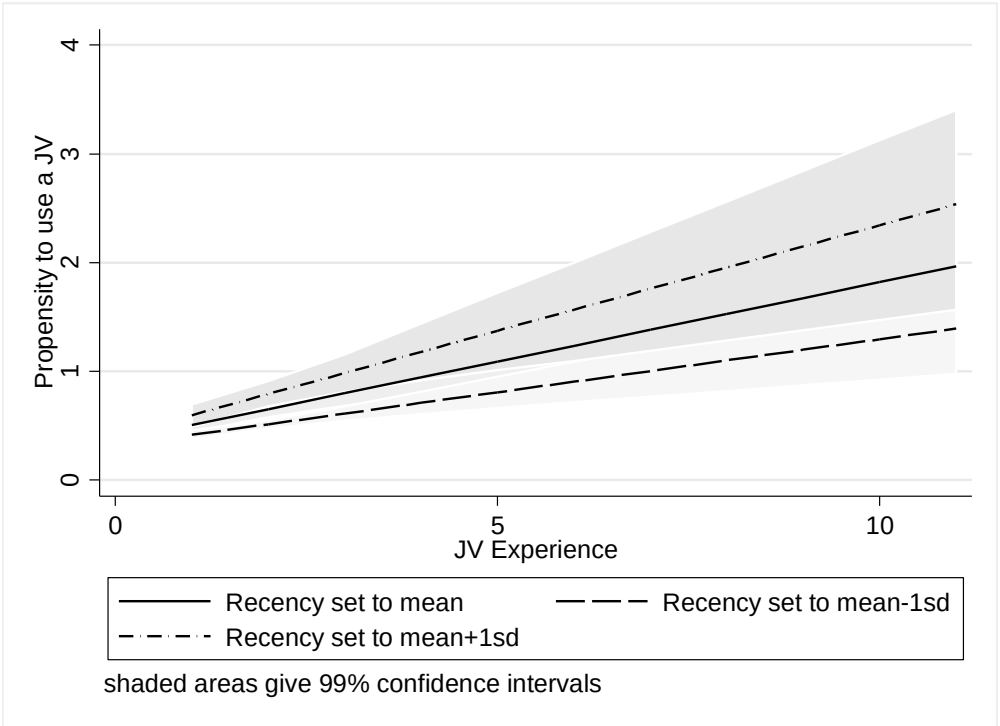


FIGURE II

Interaction Effect of JV Experience and Years Since Last JV



CHAPTER 3

THE INTERNATIONALIZATION OF EMERGING ECONOMY FIRMS: SUBSTITUTION AND LOCATION CHOICE

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THE INTERNATIONALIZATION OF EMERGING ECONOMY FIRMS: SUBSTITUTION AND LOCATION CHOICE

ABSTRACT

While the international business literature has become increasingly interested in technology-seeking foreign direct investment, little is known about the alternatives to sourcing knowledge abroad. Specifically, it is unclear how domestic strategies influence the propensity of emerging economy firms to invest abroad in search of knowledge. This study examines the ways in which international joint ventures with foreign multinational enterprises in a firm's host country influences the location choice in foreign direct investment by emerging economy firms. Using data on inward and outward foreign direct investment in China in the period 1978-2014 we also address the extent to which this relation is influenced by firms' absorptive capacity and the revealed technological advantage of the firm's home country. We find that domestic joint venture experience significantly influences the preference for more technologically advanced host countries and that both firms' absorptive capacity and domestic industry strength influence the preference for more advanced host countries. Our study thereby contribute to our understanding of emerging market multinational enterprises, the liability of foreignness, and knowledge-seeking foreign direct investment.

INTRODUCTION

The knowledge-seeking motivation for foreign direct investment has attracted increased scholarly attention in the last decade, stimulated by the surge in foreign direct investment by firms from emerging markets (Luo & Tung, 2007). Scholars have for instance emphasized how scarcity of relevant knowledge in firms' home country may drive outward investment (Cantwell, Dunning & Janne, 2004; Deng, 2009; Makino, Lau & Yeh, 2002; Shan & Song, 1997). Other studies have examined when firms will invest abroad in search of new knowledge (Chung & Alcácer, 2002), which firms are most likely to invest abroad for in search of knowledge (Berry, 2006), and how the asset-seeking motivation influences location choices (Makino et al., 2002). Yet little is known about the alternatives to foreign direct investment to obtain access to critical knowledge. In particular, the role of more technologically sophisticated foreign firms in the firm's home country as a source of technological expertise, and as such a substitute to technology-seeking foreign direct investment, has been studied in the innovation (Liu & Buck, 2007) and economics literature (De La Potterie & Lichtenberg, 2001; De Mello, 1999; Fu & Gong, 2011; Liu, 2002), but has rarely been brought into the international business literature (Tian, 2007).

Strategic alliances are one way for firms to access to new (technological) knowledge, both domestically as well as abroad (Hamel, 1991; Hennart, 1988). However, the ways in which domestic collaborations with foreign firms may influence foreign direct investment decisions has received limited attention (Gu & Lu, 2011; Li, Li & Shapiro, 2012), even though the international expansion decision and location choice are known to be driven by the presence or absence of firm-specific advantages (Buckley & Casson, 1976; Hymer, 1976; Luo & Tung, 2007). Domestic alliances with foreign entrants may also function as a source of 'international experience' that firms can use in their attempts to invest abroad to mitigate the effects of and reduce the liability of foreignness and outsidership that firms tend to be subject to when

investing abroad (Delios & Henisz, 2003; Johanson & Vahlne, 1977; 2009; Lu, Liu, Wright & Filatotchev, 2014; Zaheer, 1995).

Furthermore, the extent to which the firm's own knowledge base or the development of the host country's market plays into the choice to invest in technologically more advanced host countries to obtain relevant knowledge remains unclear. On the one hand it should be expected that firms with greater technological capabilities should be better positioned to compete in technologically more advanced countries (Hennart & Park, 1993; Morck & Yeung, 1992). At the same time, however, greater technological capabilities also reduce the need to invest abroad for knowledge-seeking motivations (Li et al., 2012).

This paper seeks to address the question: how do domestic joint ventures with foreign partners influence the location choice in foreign direct investment? Specifically, we are interested in the extent to which the preference for more advanced host countries by emerging economy firms is influenced by domestic joint ventures with foreign partners. In addition, we seek to examine how the firm's knowledge base and the abundance of relevant knowledge in the home country influences the location preference.

An investigation of the role of domestic experience is warranted for a number of reasons. First, over the past decades emerging economy firms have been exposed to foreign influences in their home country. Foreign presence was often manifested through joint ventures with local partners, providing ample opportunities for local partners to learn from their more advanced foreign partners. Indeed, several studies have suggested that the presence of foreign partners can be beneficial to firms (Gu & Lu, 2011; Li et al., 2012). We depart from these studies by examining firm level effects and the interplay of foreign partners, internal development, and foreign direct investment as ways to access new knowledge.

Moreover, emerging economy firms have recently started to expand internationally, spurring interest in the drivers of these foreign investment decisions. In particular, recent studies

have been interested in understanding the drivers of knowledge-seeking foreign direct investment and the identification of boundary conditions (Deng, 2007; Li et al., 2012; Luo & Tung, 2007). Our study adds to this literature by addressing the tradeoff between domestic and foreign knowledge-sourcing – the extent to which domestic JV experience reduces the necessity to invest in more technologically advanced host countries in search of new knowledge - and the role of home and host country factors in influencing location preferences in foreign direct investment.

Our study further highlights the significance of countries' revealed technological advantage as both a source of relevant knowledge and a driver of foreign direct investment. This concept that has been used frequently in the international economics literature has thus far received limited attention in the international business literature (Colombelli, Krafft & Quatraro, 2014; Kim, Lee & Cho, 2016; Patel & Pavitt, 1991). However, the relative strength of a local industry should have important implications for critical resource abundance or absence and thereby the international expansion decisions of local firms. We demonstrate the relevance of revealed technological advantage in explaining technology-seeking FDI.

THEORETICAL FRAMEWORK

When firms invest abroad, they will generally be subject to a liability of foreignness and outsidership – they will be at a disadvantage compared to local firms because of unfamiliarity with the market and the lack of network ties (Johanson & Vahlne, 2009; Zaheer, 1995). Greater distance between the firm's home country and the host country in which foreign direct investment takes place tends to attenuate the liability of foreignness (Boeh & Beamish, 2012).

Recently, researchers have started to investigate the different ways in which MNEs can reduce the liability of foreignness or mitigate the negative effects of the liability of foreignness (Bell, Filatotchev & Rasheed, 2012; Bhanji & Oxley, 2013; Kim & Jensen, 2014; Mezias, 2002;

Wu & Salomon, 2015). In addition, several studies have shown that international experience can help firms prepare for international expansion (Delios & Henisz, 2003; Li, Qian & Yao, 2015; Lu et al., 2014; Maitland & Sammartino, 2014). These studies demonstrate that more relevant knowledge tends to facilitate international expansion.

One way for firms to obtain access to new knowledge is through engaging in strategic alliances (Grant & Baden-Fuller, 2004; Hamel, 1991). These collaborations allow firms to make use of knowledge outside of the firm's own boundaries through recombination and the development of new knowledge, allowing firms to upgrade their knowledge base and subsequently increase performance (Anand & Khanna, 2000; Baum, Calabrese & Silverman, 2000; Lavie, 2007; Lin, Yang & Arya, 2009). Technological knowledge is believed to play a central role in this relation (Sampson, 2007).

In the international context, studies have demonstrated that foreign entrants can provide local firms with knowledge absent in the local market (Buckley, Clegg & Wang, 2007; Li & Li, 2014; Sinani & Meyer, 2004; Wei & Liu, 2006; Zhang, Li, Li & Zhou, 2010). International joint ventures (IJVs) are particularly suited for the combination of different types of knowledge. For foreign entrants, IJVs offer access to location-specific knowledge, such as local market knowledge, an established reputation, or ties to local stakeholders. For local firms, IJVs offer access to new knowledge such as technological or marketing expertise that may be more difficult to come by in the local market, particularly if foreign direct investment occurs for market-seeking or efficiency-seeking reasons (Tian, 2007). In fact, several studies have argued that through collaborations with foreign MNEs, emerging market firms were able to upgrade their knowledge bases (Child & Rodrigues, 2005), allowing them not only to expand their activities domestically, but also to develop into global players. Examples of firms like these are Lenovo and TCL that, through original equipment manufacturing, were able to develop their capabilities and eventually invest abroad (Chin, 2013).

In addition to market-seeking, efficiency-seeking, and natural resource-seeking motivations for FDI that have traditionally been studied in the IB literature (Dunning, 1998), another motivation for firms to invest abroad that has gained in popularity and interest over the last decades is to obtain access to resources or knowledge that are unavailable in the firm's home market (Cantwell et al., 2004; Hennart, 2012; Yiu, Lau & Bruton, 2007). Through the acquisition of a foreign firm or the establishment of a joint venture abroad firms are able to tap into more developed knowledge bases (Child & Rodrigues, 2005; Deng, 2007; 2009; Luo & Tung, 2007) and emerging market firms have been actively using acquisitions and joint ventures in more developed countries to strengthen their knowledge bases over the past decades. Deng (2007; 2009), for instance, claims that most of Chinese foreign direct investment in more developed countries can be explained by the knowledge-seeking motivation and Nachum and Zaheer (2005) found that most FDI into the United States is of the knowledge-seeking variety.

These different roles of IJVs present an interesting consideration for emerging market firms looking to strengthen their knowledge base. On the one hand they can use IJVs in their home country to obtain access to relevant knowledge, but at the same time they can also invest abroad to obtain this knowledge. While some authors have suggested that emerging market firms indeed substitute domestic IJVs for foreign direct investment, no empirical support exists for this conjecture (Li et al., 2012). Moreover, it is unclear how the firm's extant knowledge base influences the way in which firms are able to benefit from domestic joint ventures and the likelihood of engaging in knowledge-seeking FDI.

Hypothesis Development

Foreign direct investment in emerging economies has tended to follow a north-south direction, whereby firms from more advanced countries invest in emerging economies in search of new markets or improved efficiency (Hoskisson, Eden, Lau & Wright, 2000). Often, investment

would occur through the use of joint ventures with local partners that provided manufacturing capabilities or had a superior understanding of and access to the host market (Child & Rodrigues, 2005). The foreign firm would frequently contribute technological knowledge that local partners lacked.

Through these collaborations emerging market firms were exposed to new knowledge. In addition to technological expertise, the foreign partner functioned as a source of other knowledge, such as managerial capabilities, FDI experience, and knowledge about foreign markets. Moreover, the domestic IJVs provided local firms with first-hand experience in dealing with cultural and institutional differences between countries as many of the foreign partners were from more technologically advanced, and culturally and institutionally more distant countries. Without investing abroad themselves, these firms obtained some of the benefits of international experience such as the ability to better balance cross-national differences.

The challenges emerging economy firms face tend to be particularly pronounced when they invest in more advanced host countries. Several studies have suggested that emerging market firms are better able to manage the complexities of equally or less developed host country institutions (Cuervo-Cazurra & Genc, 2008; Peng, 2012; Ramamurti, 2012). As Guillen and Garcia-Canal (2009) explain, emerging market firms possess the capabilities and know-how to efficiently operate in the institutionally complex developing countries. On the other hand, when they invest in more developed host countries, emerging economy firms often struggle with the culture and local institutional environment. In our interviews with Chinese CEOs, several explained that they faced issues in their foreign direct investments in China. As one manager told us, his company had underestimated the complexity of the European regulatory environment and after acquiring a European firm was facing itself heavily restricted by the complex regulations. Another firm told us about how, despite having successfully

entered other countries in Asia, they struggled to gain approval for their foreign investments in the United States due to strong opposition from a range of stakeholders, concerned about knowledge appropriation and Chinese government ties.

In addition, Li Sun (2009), in a case study of Chinese MNE Huawei, argues that emerging market firms tend to nurture their capabilities in the home country in order to prepare for international expansion. He also argues that emerging market firms prefer to shy away from technologically more advanced host countries[1], but instead prefer to build their international presence gradually, by starting in similar countries and slowly moving up the value curve. At the same time, several studies have suggested that emerging market firms in search of technological knowledge invest in more developed host countries (Chin, 2013; Deng, 2007; 2009). In addition, the vast majority of inward FDI into the United States was found to be of the knowledge-seeking variety (Nachum & Zaheer, 2005).

Given the difficulty of entering more developed host countries, we should expect that, everything else equal, firms that have experience with foreign partners possess superior knowledge concerning foreign markets, particularly about those more advanced than the firm's home country. This superior knowledge should increase the propensity of the firm to invest in technologically more advanced countries.

Hypothesis 1: The more domestic JV experience the firm has with foreign MNEs, the more technologically advanced the host country it invests in.

Substitution effects

Foreign partners do not only provide access to knowledge about foreign markets. Joint ventures allow firms to tap into the knowledge base of other firms. In countries where technological

[1] In addition to culturally, economically, and institutionally more distant countries.

knowledge is relatively scarce, foreign partners are often responsible for bringing in the more sophisticated knowledge, whereas local partners often take the role of providing local market knowledge or access to the manufacturing side of the venture. Joint ventures thus provide a way for firms lacking technological capabilities to develop and sell more technologically sophisticated products than if they would go at it alone. Moreover, collaborating with more technologically sophisticated partners may allow the local partner to upgrade its own knowledge base through learning. In fact, when the Chinese government in the 1980s forced foreign firms to form joint ventures with local Chinese partners the goal was to encourage learning by Chinese firms and upgrading Chinese firms' technological knowledge bases.

Given the potential for learning then, everything else equal, one would expect those firms that have joint venture experience with foreign partners to possess more knowledge about technologies, or technological capabilities. These technological capabilities can be viewed as firm-specific advantages and are likely to give the firm an advantage over its domestic competitors and thereby increase the likelihood of the firm investing abroad (Makino et al., 2002).

Recent literature, however, has indicated that emerging economy firms invest abroad for a number of reasons, and these reasons tend to influence the location choice in foreign direct investment. When a firm's home country is characterized by a relative scarcity of technological assets, firms can decide to invest abroad in order to gain access to technologies unavailable in the home country (Dunning, 1998; Wesson, 1999). For emerging economy firms the most natural place to look for these technologies would be more technologically advanced host countries (Deng, 2007; Makino et al., 2002). In fact, several studies have explained foreign direct investment in more (technologically) developed countries as largely driven by the strategic-asset seeking motivation (Buckley, Clegg, Cross, Liu, Voss & Zheng, 2007; Deng, 2007; 2009; Guillén & Garcia-Canal, 2009; Luo & Tung, 2007; Rui & Yip, 2008).

When a firm seeking to expand its technological knowledge base is able to do so through domestic collaborations with foreign MNEs investing in its home country, the necessity of investing abroad for technology-seeking reasons is reduced (Li et al., 2012). When such substitution occurs, we should expect the relationship between domestic joint venture experience and the preference for more technologically advanced countries to be weaker.

But when does this substitution occur? Several studies have demonstrated that the ability of firms to learn from alliance partners depends on their own capabilities, or absorptive capacity (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998; Liu & Buck, 2007). Firms with a strong knowledge base tend to be better able to identify, access, and assimilate technological knowledge from the shared and nonshared resources of their alliance partners (Lavie, 2006). When firms lack absorptive capacity they will not be able to understand the technological knowledge their alliance partner brings to the table and will be limited in their ability to use this knowledge outside of the alliance (Zahra & George, 2002). As such we should expect that for firms lacking technological capabilities the substitution effect of domestic IJVs will be weaker, which will be reflected in a stronger preference for knowledge-seeking FDI.

Firms with greater technological capabilities should thus be able to learn more about technologies from domestic IJVs, and this reduces the necessity to invest abroad in search of these technologies. As such we hypothesize a negative moderating effect of technological capabilities on the relation between domestic joint venture experience and the choice for a technologically more advanced host country.

Hypothesis 2: The positive effect of domestic joint venture experience with foreign MNEs on the choice for more technologically advanced host countries is weaker for firms with strong technological capabilities.

It is also important to consider the activities that the firm engages in when conducting foreign direct investment. In exploitative entries, in which the firm is already familiar with the industry, the firm is likely to face fewer difficulties when investing abroad. In those cases, having domestic experience should be particularly useful as the main activities in which the firm engages will be similar to the ones it engages in domestically, thus allowing the firm to transfer knowledge gained domestically to the foreign subsidiary.

However, when the firm engages in explorative entries, entering a new industry, the challenges will be twofold: On the one hand the firm must address the challenges associated with the liability of foreignness and outsidership (Johanson & Vahlne, 2009; Zaheer, 1995). At the same time the firm must face the challenges associated with exploration (Hitt, Hoskisson & Kim, 1997; Mayer, Stadler & Hautz, 2014). Just as international new ventures face both liabilities of foreignness and newness upon international expansion (Mudambi & Zahra, 2007), so too do firms simultaneously engaging in foreign direct investment and exploration face dual challenges.

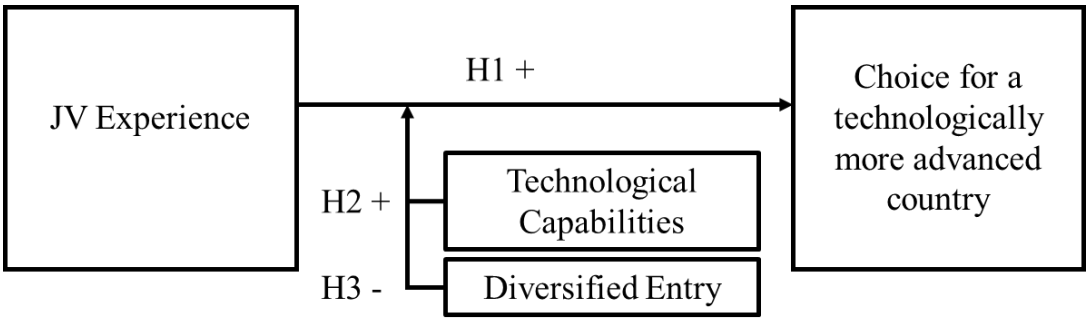
When the firm is expanding its activities into unchartered territories it may not be able to rely on experience accumulated domestically. Instead, the firm must develop new capabilities in order to address these dual challenges. In those circumstances we should expect that the benefits of having domestic joint venture experience on inducing investment in more developed host countries should be less profound than when the firm engages in foreign direct investment of a more exploitative nature.

Hypothesis 3: The positive effect of domestic joint venture experience with foreign MNEs on the choice for more technologically advanced host countries is weaker for diversified entries

An overview of the main hypotheses can be found in figure 1.

FIGURE 1

Overview of the main relations



Data & Methods

We test our hypotheses on a sample of inward- and outward foreign direct investment in China in the period of 1978-2014. We believe the Chinese context to be appropriate for a number of reasons. First, after the opening up of the Chinese economy to foreign entrants in 1978 many (primarily western) MNEs were eager to obtain access to the low labor costs and great market potential that China offered. MNEs interested in building a presence in China were forced to enter into an equity joint venture with a local Chinese partner, however. This policy was designed to encourage knowledge spillovers to local firms, particularly in the form of technologies. Chinese firms were not allowed to invest abroad until the late 1990s, providing a semi-natural experiment to test our hypotheses. Specifically, while there was a long period in which Chinese firms had the opportunity to collaborate with and learn from foreign joint venture partners, they had virtually no possibilities to exploit this knowledge abroad until the Chinese government loosened restrictions on outward foreign direct investment in 1997.

Moreover, in this period Chinese firms lacked technological knowledge, relying on their foreign partners to bring in expertise that was scarce in China. As such, the learning potential

for Chinese partners was significant and it was difficult for firms to obtain this expertise through other means.

Finally, in the last decades Chinese firms have become very active in foreign direct investment, investing not only in other emerging and less developed markets, but increasingly also in more developed countries. However, given the unique cultural and institutional context in which Chinese firms operate there is much to learn about the ways in which Chinese firms overcome issues associated with the liability of foreignness when they invest abroad.

The database used to test our hypotheses was constructed as follows. First, we identified foreign entries by Chinese firms using three different data sources: SDC Mergers & Acquisitions, SDC Alliances & Joint Ventures, and LexisNexis Corporate Affiliations. We considered foreign entry to take place if the firm set up a Greenfield subsidiary, if it acquired a foreign partner outside of China, or if the firm engaged in an equity joint venture outside of China. Foreign entries were cross-verified using these three databases, the Heritage Foundation's database on Chinese FDI, and where necessary using other data sources such as the firm's website, annual reports, news articles, Orbis, and Chinese government data.

To examine Chinese firms' domestic experience we constructed a database on Sino-foreign equity joint ventures in China in the period 1978-2014. We first used the Almanac of China's Foreign Economic Relations and Trade (China Yearbook), published by the Chinese government to obtain a population of joint ventures for the period 1978-1997. We used SDC and LexisNexis Corporate Affiliations to identify joint ventures after 1997 and to double check those that were formed prior to 1997[2]. This database containing more than 26.000 joint ventures was then used to calculate joint venture experience for every single firm. We corrected for name changes and mergers using manual web searches[3]. This allowed us to identify more than 10.000

[2] We further rely on the Almanac of China's Foreign Economic Relations and Trade for the years 1998-2001, in which only the 500 largest sino-foreign JVs were recorded.
[3] In cases in which there was too much uncertainty about whether or not the same firm was involved (for instance due to name changes), we excluded these entries from our database.

individual Chinese firms with at least one joint venture with a foreign partner in China in the period 1978-2014.

We then matched the data on foreign entries with our data on domestic joint venture experience. These data were supplemented with firm-specific data from a number of data sources including Qin, CSMAR, Orbis, annual reports, and company websites.

Dependent variables. In order to test our hypotheses we construct our dependent variables as a binary variable that takes on a value of 1 if entry occurs in a technologically more sophisticated country. We follow the WIPO's Global Innovation Index and identify a host country as more developed if it ranks higher on this index than China. This index has been used in a number of recent studies (Simón-Moya, Revuelto-Taboada & Guerrero, 2014). In our robustness checks we also employ alternative measures of more technologically sophisticated host countries such as OECD membership and the Bloomberg Innovation Index.

For a more precise analysis we also test our hypotheses using an alternative dependent variable, the host country's revealed technological advantage (Patel & Pavitt, 1991). Revealed technological advantage has been used in a number of studies to capture the relative strength of different high-tech industries, and as such may be a more appropriate measure of the relative attractiveness of a host country compared to the firm's home country (Chyi, Lai & Liu, 2012; Colombelli et al., 2014; Kim et al., 2016; Zidorn & Wagner, 2012). We obtained revealed technological advantage scores from the OECD's Science, Technology and R&D Statistics database and subsequently matched these to the entry year, the firm's primary industry, and the target country.

Independent variables. We measure joint venture experience by counting the number of equity joint ventures with a foreign partner a Chinese firm has engaged in up to the year of the foreign entry. We use this variable to test hypothesis 1.

To test hypothesis two we create a variable that captures the technological capabilities of the Chinese firm. Using the Chinese patent office's data (SIPO) we construct a count variable of all patents granted to the Chinese firm (Keupp, Friesike & von Zedtwitz, 2012; Liegsalz & Wagner, 2013). We interact this variable with JV Experience to test the predicted negative interaction of domestic joint venture experience and technological capabilities.

Hypothesis three is tested by constructing a variable, *Diversified Entry*, which captures the extent to which the focal investment is exploratory in nature. This variable takes on a value of 1 if the focal investment occurs in a different four digit NAICS code than the firm's main activities and a value of 0 otherwise. This data was obtained from the different databases in outward FDI. We determined the primary industry of the foreign activity and, if not already given, assigned it a 4-digit NAICS code based on the description of the foreign activity. This variable is interacted with joint venture experience to test the predicted negative moderation effect in hypothesis 3.

We also include a number of control variables. First, we control for the home and host country's revealed technological advantage[4], as these are likely to influence the propensity of firms to engage in technology-seeking foreign direct investment (Colombelli et al., 2014; Kim et al., 2016). These variables were obtained from the OECD's Science, Technology and R&D Statistics database and indicate the relative strength of the domestic and foreign industry in the firm's primary sector. Higher values indicate greater comparative strength. Because the influence of the Chinese government is likely to influence the motivation to invest abroad and the resources available to firms seeking to invest abroad and thereby also the location choice we control for state ownership (Bhaumik, Driffield & Pal, 2010; Cui & Jiang, 2012). The variable *SOE* takes on a value of 1 if the Chinese firm is at least partly owned by the Chinese government (central, provincial, or municipal) and a value of 0 if the firm does not have any

[4] The host country's revealed technological advantage variable is only included in our probit models. In the OLS models we merely control for China's revealed technological model.

government ownership. Similarly, we include a variable that captures whether or not the firm is listed on one of the main stock exchanges - Shanghai, Shenzhen, or Hong Kong. Because we believe that investments made by headquarters are likely to be different from those made by smaller subsidiaries, particularly in terms or resources available and importance of the investment, we include a control variable that takes on a value of 1 if the investment was made by a subsidiary and a value of 0 if the investment was made by headquarters. We coded this variable based on name differences between the focal unit and the firm's ultimate parent. To cross-check the validity of this coding method we relied on LexisNexis Corporate Affiliations, amongst others for information on subsidiaries vis-à-vis parent firms. Finally, we control for the recency of experience by including a variable called *Years Since Last JV*, that measures the number of years since the last joint venture.

To control for home and host country factors that may influence the necessity for firms to invest abroad and that may influence the attractiveness of the host country we include a number of country level controls. We control for the host country's inward FDI, imports, exports, and GDP growth. We obtained these measures from the IMF's International Financial Statistics Database. These variables were all standardized with respect to their means to facilitate interpretation[5].

While we are testing our hypotheses in the setting of a semi-natural experiment, there may be some unobserved heterogeneity that we need to account for. We attempt to control for self-selection by using the Heckman-Lee approach. First, the choice to engage in a joint venture is estimated using two instruments: pre-1997 industry growth and pre-1997 average industry wages. These instruments were chosen because they influenced the propensity of JV formation by making China a more attractive host country and thereby Chinese firms more attractive JV

[5] In additional analyses we also controlled for aspects of the Chinese macroeconomic environment. However, due to multicollinearity concerns (and the fact that they did not improve model fit) we excluded these variables from our main analyses.

partners and because outward FDI was restricted until 1997 and as such it should not influence outward FDI. We then use the residual from this estimation to calculate the inverse mills ratio, which we subsequently include in our probit estimations. The results of this first stage can be found in Appendix I.

Finally, we control for year, parent industry, and subsidiary industry effects by including dummy variables for the year of entry, the 5-digit NAICS code of the parent company and the 5-digit NAICS code of the focal investment[6].

Results

Descriptive statistics for our dataset can be found in table 1. Pairwise correlations can be found in table 2. Our final sample consists of 4,621 individual entries by Chinese firm outside of China over the period of 1983 to 2014[7]. An overview of host countries can be found in Appendix II[8].

Results of our probit analyses can be found in table 3. Before testing our main hypotheses it is useful to discuss some of our control variables. First, we find that in models 1-4 Chinese revealed technological advantage is statistically significant and negative, indicating that if China has a high revealed technological advantage in the firm's primary industry, firms are less likely to invest in more technologically developed host countries. Second, in models 1-4 the coefficients for Host Country Revealed Technological Advantage are consistently statistically significant and positive, indicating that the higher the host country's RTA in the firm's main industry, the more likely the firm is to invest in a more developed host country.

[6] For much of the data, such as that from SDC, the NAICS codes were given. For those entries for which they were not given we determined the NAICS code manually based on descriptions from the United State Census Bureau.

[7] While we study outward foreign direct investment from 1978, very few investments occurred prior to the Chinese government's loosening of restrictions on outward foreign direct investment in 1997.

[8] The difference in the number of observations in this list and the analyses stems from missing data for some of the entries and exclusion of tax havens from the analyses.

TABLE 1
Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
More Developed Host Country	0.72	0.45	0	1
JV Experience	5.62	13.99	0	82
Patents	0	1	-0.29	8.10
Chinese RTA	0.07	0.35	0	2.84
Host Country RTA	0.06	0.28	0	2.84
Difference in RTA	-0.02	0.22	-2.84	1.13
SOE	0.20	0.40	0	1
Listed	0.26	0.44	0	1
Diversified Entry	0.62	0.48	0	1
Recency	860.85	993.41	0	2013
Host Country GDP Growth	0	1	-5.58	6.46
Host Country IFDI	0	1	-1.13	4.53
Host Country Imports	0	1	-0.41	6.81
Host Country Exports	0	1	-0.87	3.93
Entry Year	2006	6.17	1983	2014
Chinese Firm NAICS code	45617	21349	11200	99999
Target Industry NAICS code	36663	13317	11112	92411

Third, we find that the main effects of the firm's technological capabilities, measured through patents, is statistically significant and negative in all models, indicating that when firms possess greater technological capabilities, they are less likely to invest in technologically more developed host countries. These three findings support our assumption that Chinese firms invest in more technologically advanced host countries in search of technologies they lack in their home country.

TABLE 2
Pairwise Correlations

Variable	1	2	3	4	5	6	7	8	9	10
1. More Developed Host Country	1									
2. JV Experience	-0.10*	1								
3. Patents	-0.17*	0.44*	1							
4. Chinese RTA	-0.02	-0.03*	0.14*	1						
5. Host Country RTA	0.07*	-0.04*	0.04*	0.79*	1					
6. Difference in RTA	0.12*	-0.01	-0.17*	-0.61	0.02	1				
7. State Ownership	-0.06*	0.47*	0.20*	-0.06*	-0.06*	0.03	1			
8. Listed	0.05*	-0.09*	-0.08*	-0.01	0.00	0.01	0.00	1		
9. Subsidiary Investment	0.03	0.07*	0.05*	-0.04*	-0.02	0.03*	0.13*	0.05*	1	
10. Diversified Entry	0.05*	-0.06*	-0.01	0.01	0.01	0.00	-0.01	-0.02	-0.02	1
11. Years since last JV	-0.09*	0.46**	0.31*	0.00	-0.03	-0.04*	0.52*	-0.01	0.05*	-0.07*
12. Host Country IFDI	0.35*	-0.08*	-0.04*	-0.01	0.05*	0.08*	-0.06	0.15*	-0.02	-0.02
13. Host Country Imports	0.04*	0.02	-0.01	0.00	0.00	-0.00	-0.03	0.05*	0.03	0.00
14. Host Country Exports	0.40*	-0.10*	-0.06*	0.00	0.06*	0.08*	0.09*	0.15*	-0.02	-0.02
15. Host Country GDP Growth	-0.14*	0.08*	0.01	-0.03	-0.04*	-0.01	0.05*	-0.05*	-0.01	-0.02
16. Entry Year	-0.07*	-0.06	0.07*	-0.17*	-0.07*	0.08*	-0.08	0.25*	0.10*	-0.05*
17. Chinese Firm NAICS Code	0.13*	-0.05*	-0.16*	-0.06*	-0.04*	0.04*	-0.03	0.02	0.02	0.17*
18. Target Industry NAICS Code	0.1347*	-0.05*	-0.11*	0.04*	0.04*	-0.00	-0.05*	0.10*	-0.03	0.03

TABLE 2 (CONTINUED)

Variable	11	12	13	14	15	16	17	18
11. Years Since Last JV	1							
12. Host Country IFDI	-0.06*	1						
13. Host Country Imports	-0.02	0.04*	1					
14. Host Country Exports	-0.08*	0.81*	0.30*	1				
15. Host Country GDP Growth	0.05*	-0.26*	-0.09*	-0.26	1			
16. Entry Year	-0.05*	0.28*	0.10*	0.31*	-0.13*	1		
17. Chinese Firm NAICS Code	-0.05*	0.03*	-0.01	0.02	-0.02	-0.12*	1	
18. Target Industry NAICS Code	-0.01	0.06*	-0.00	0.07*	0.05*	-0.01*	0.37*	1

TABLE 3:
Results of Probit Estimation of the Choice for a More Technologically Advanced Host Country

Variables	Model 1	Model 2	Model 3	Model 4
JV Experience (H1)	0.0055*	0.0169***	0.0042	0.0144***
	(0.0025)	(0.0034)	(0.0034)	(0.0042)
Patents	-0.1409***	-0.0629†	-0.1415***	-0.0619
	(0.0370)	(0.0381)	(0.0370)	(0.0382)
Chinese Revealed Technological	-0.9444***	-0.9975***	-0.9427***	-0.9950***
Advantage	(0.2226)	(0.2257)	(0.2225)	(0.2253)
Host Country Revealed Technological	1.1819***	1.1713***	1.1813***	1.1702***
Advantage	(0.2665)	(0.2694)	(0.2660)	(0.2684)
State Ownership	-0.8009	-0.7403	-0.7933	-0.7290
	(0.5911)	(0.5929)	(0.5916)	(0.5930)
Listed	0.0067	0.0055	0.0053	0.0026
	(0.0830)	(0.0836)	(0.0831)	(0.0836)
Subsidiary Investment	0.2469*	0.2178*	0.2476*	0.2185*
	(0.0992)	(0.0992)	(0.0993)	(0.0994)
Diversified Entry	0.1565*	0.1739*	0.1431*	0.1475*
	(0.0677)	(0.0677)	(0.0726)	(0.0727)
Years Since Last JV	-0.0001	-0.0001*	-0.0001	-0.0001*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Host Country IFDI	1.7922***	1.7887***	1.7922***	1.7892***
	(0.1395)	(0.1393)	(0.1394)	(0.1393)
Host Country Imports	-0.0112	-0.0121	-0.0100	-0.0088
	(0.0618)	(0.0626)	(0.0619)	(0.0625)
Host Country Exports	2.6903***	2.7125***	2.6895***	2.7108***
	(0.1527)	(0.1529)	(0.1526)	(0.1528)
Host Country GDP Growth	-0.0823*	-0.0761†	-0.0819*	-0.0759†
	(0.0389)	(0.0391)	(0.0389)	(0.0392)
Inverse Mills Ratio	-0.6292	-0.4927	-0.6218	-0.4789
	(0.5624)	(0.5646)	(0.5627)	(0.5645)
JV Experience x Patents (H2)		-0.0069***		-0.0071***
		(0.0015)		(0.0016)
JV Experience x Diversified Entry (H3)			0.0021	0.0046
			(0.0038)	(0.0045)
Constant	3.2354***	3.1069**	3.2296***	3.0962**
	(0.9428)	(0.9485)	(0.9429)	(0.9488)
Marginal Effects JV Experience	0.0008*	0.0024***	0.0006	0.0021***
	(0.0004)	(0.0005)	(0.0005)	(0.0006)
Marginal Effects Patents	-0.0205***	-0.00091†	-0.0205***	-0.0089
	(0.0053)	(0.0055)	(0.0053)	(0.0055)
Marginal Effects Diversified	0.0227*	0.0250†	0.0208*	0.0212*
	(0.0098)	(0.0098)	(0.0105)	(0.0105)
Marginal Effects JV Experience		-0.0010***		-0.0010***
x Patents		(0.0002)		(0.0002)
Marginal Effects JV Experience			0.0003	0.0007
x Diversified Entry			(0.0006)	(0.0006)
N	4,621	4,621	4,621	4,621
Log-Pseudolikelihood	-1183.9192	-1174.9420	-1183.7991	-1174.4544
Akaike's Information Criterion	2649.838	2633.884	2651.598	2634.909

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses. Firm industry, target industry, and entry year effects are included.

We test hypothesis 1 in Model 1. The coefficient for Joint Venture Experience is statistically significant in model 1, providing support for hypothesis 1. In addition, the marginal effects indicate that for every additional joint venture the preference for a more developed host country increases by about 0.08%. While the economic significance of this is limited, for firms with the most experience in our sample, this translates into an increased propensity of about 60%.

To test our second hypothesis we include an interaction between JV Experience and Patents. The coefficient in Model 2 for this interaction effect is negative and statistically significant, providing support for hypothesis 2. Moreover, the main effect of JV Experience is statistically significant and positive, providing further support for hypothesis 1. Firms with domestic JV experience are more likely to invest in technologically more developed countries but this effect is weaker if the firm possesses greater technological capabilities. The negative effect of Patents also indicates that firms with greater technological capabilities are less likely to invest in technologically more developed countries, providing support for the idea that firms that possess technological capabilities need not invest abroad in search of technological knowledge.

Because interaction effects in limited dependent variable analyses are intrinsically difficult to interpret (Hoetker, 2007; Wiersema & Bowen, 2009; Zelner, 2009), we conduct a number of additional analyses. Despite some discussion as to the appropriateness of marginal effects in limited dependent variable analyses, and particular for the interpretation of interaction effects (Ai & Norton, 2003; Greene, 2010), we follow Hoetker's (2007) recommendation and report marginal effects at the bottom of table 3[9]. These marginal effects, displayed at the bottom of Table 3, indicate that for every one-unit increase in patenting, the likelihood of investing in a more developed host country decreases by approximately 1%. In addition, the marginal effects

[9] This is the marginal effect calculated with the other variables set at their mean.

of the interaction between domestic joint venture experience and Patents indicate that for every one unit increase in patents the effect of domestic joint venture experience is reduced by an additional 0.1%.

Because even marginal effects can be difficult to interpret a graphical representation is desired if not necessary (Hoetker, 2007). As a result, we employ a simulation-based approach suggested by Zelner (2009). Results of our clarify estimations can be found in figure 2. Here, we clearly see that the slope of the relationship between domestic JV experience and the propensity to enter a technologically more developed host country differs for firms with low and high patenting activity. As such, we believe our findings provide support for hypothesis 2. Model 3 in table 3 includes the interaction between domestic joint venture experience and diversified entry. The statistically insignificant coefficient for this interaction term indicates that the effect of domestic joint venture experience is not influenced by whether or not the foreign investments is of an exploratory nature. Moreover the marginal effect of the interaction fails to attain statistical significance. Model 4 includes all the interactions and here we again find strong support for hypotheses 1 and 2 but not for hypothesis 3. We also use the clarify command described by Zelner (2009) to graph the interaction between diversified entry and joint venture experience in figure 3. Looking at the lower ranges of domestic joint venture experience, where most of the observations are located, we see that the slopes for firms with fewer than 20 domestic joint ventures are actually significantly different. As such, the graph provides at least partial support for hypothesis 3.

FIGURE 2:

Clarify Output of Interaction between JV Experience and Patents

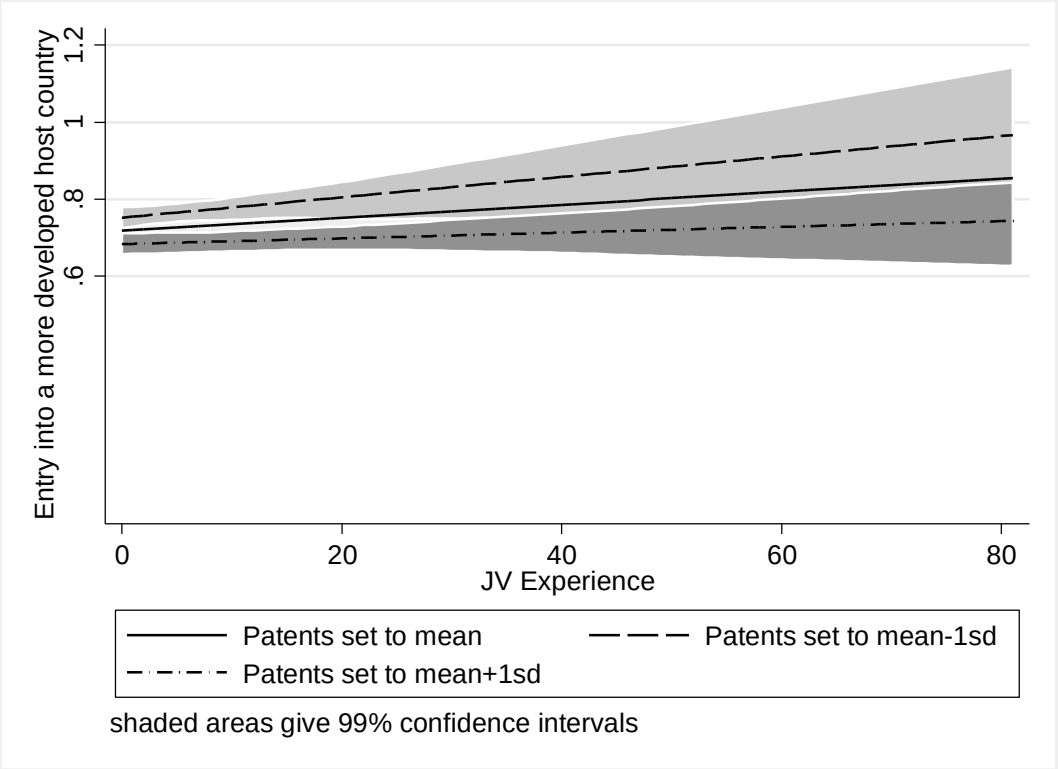
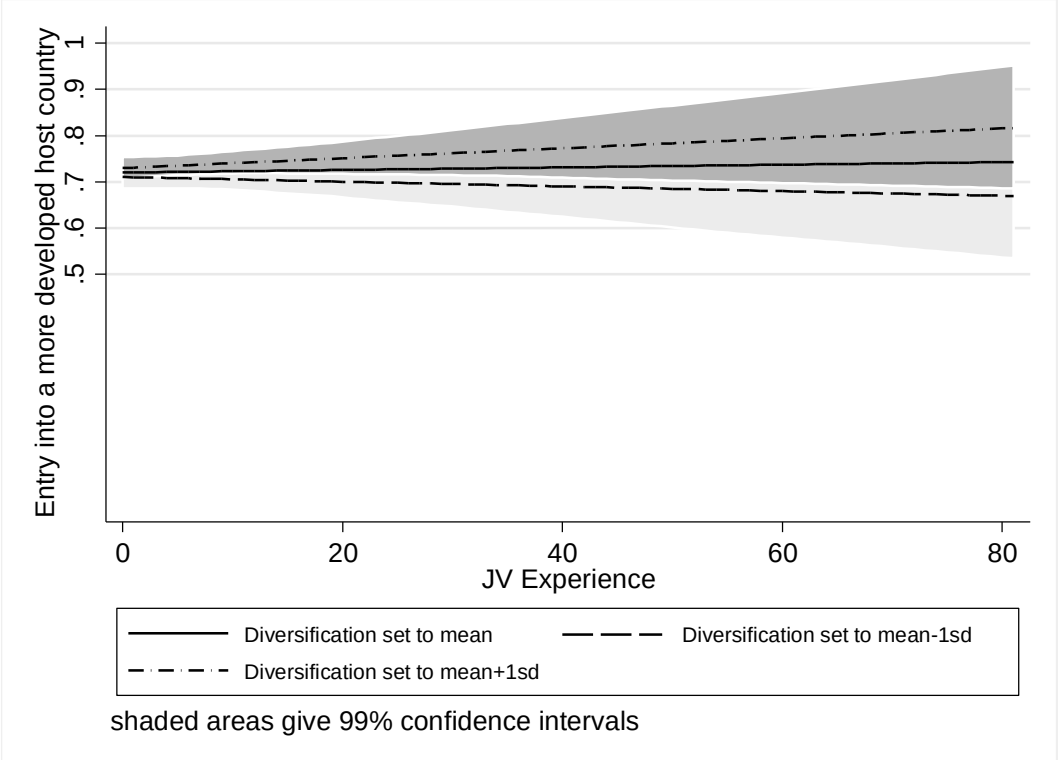


FIGURE 3:

Clarify Output of Interaction between JV Experience and Diversification



Because a binary dependent variable may not be able to capture the complexity of the host country's technological environment, we also analyze our results using the host country's revealed technological advantage in the focal firm's main industry. The advantage of this dependent variable is that it captures the attractiveness of the host country as a destination for knowledge-seeking foreign direct investment in the firm's main industry, rather than the overall innovativeness a specific host country. Greater values of the dependent variable indicate that the host country is relatively strong in the Chinese firm's main industry. Because of the continuous nature of this variable we use an OLS specification to test hypotheses 1-3.

Results of our analyses can be found in table 4. Model 5 includes only our main independent variable, JV Experience. Models 6 and 7 include the interactions with patents and diversified entry, respectively, and model 8 includes all interaction effects. Our findings are consistent with those displayed in table 3. We find support for hypothesis 1 in models 6 and 8. Moreover, we find strong support for the moderating effect of technological capabilities in models 6 and 8. We only find marginal support for hypothesis 3 in model 7. The interaction term between domestic JV experience and diversified entry has a negative sign, as predicted in hypothesis 3, but the coefficient is only marginally significant.

Robustness checks.

We examine the robustness of our findings by including alternative measures for some of our constructs. First, instead of using a probit specification for models 1-4 we re-estimate our models using a linear probability model. Linear probability models have the advantage of being easier to interpret, but are generally better suited for models where intermediate values (between 0 and 1) are possible. The results of these estimations can be found in Table 5 and clearly demonstrate consistency in our findings across model specifications.

TABLE 4:
Results of OLS Estimation Of The Host Country's Revealed Comparative Advantage

	Model 1	Model 2	Model 3	Model 4
	-0.0002	0.0003†	0.0001	0.0005*
JV Experience (H1)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
	-0.0213***	-0.0175***	-0.0211***	-0.0175***
Patents	(0.0050)	(0.0053)	(0.0050)	(0.0053)
	0.5399***	0.5381***	0.5397***	0.5381***
Chinese RTA	(0.0509)	(0.0510)	(0.0509)	(0.0511)
	-0.1847**	-0.1803**	-0.1851**	-0.1809**
State Ownership	(0.0661)	(0.0656)	(0.0661)	(0.0656)
	0.0078	0.0074	0.0078	0.0075
Listed	(0.0062)	(0.0062)	(0.0062)	(0.0062)
	0.0171**	0.0159**	0.0171**	0.0159**
Subsidiary Investment	(0.0053)	(0.0053)	(0.0053)	(0.0053)
	0.0021	0.0028	0.0046	0.0047
Diversified Entry	(0.0058)	(0.0058)	(0.0062)	(0.0062)
	0.0000	0.0000	0.0000	0.0000
Years Since Last JV	(0.0000)	(0.0000)	(0.0000)	(0.0000)
	0.0023	0.0024	0.0022	0.0024
Host Country IFDI	(0.0043)	(0.0043)	(0.0043)	(0.0043)
	-0.0042†	-0.0042†	-0.0043†	-0.0042†
Host Country Imports	(0.0023)	(0.0023)	(0.0023)	(0.0023)
	0.0156**	0.0156**	0.0156**	0.0156**
Host country Exports	(0.0051)	(0.0051)	(0.0051)	(0.0051)
	0.0002	0.0004	0.0000	0.0003
Host Country GDP Growth	(0.0033)	(0.0033)	(0.0033)	(0.0033)
	-0.1853**	-0.1783**	-0.1857**	-0.1790**
Inverse Mills Ratio	(0.0617)	(0.0609)	(0.0617)	(0.0610)
		-0.0003**		-0.0003*
JV Experience x Patents (H2)		(0.0001)		(0.0001)
			-0.0004†	-0.0003
JV Experience x Diversified Entry (H3)			(0.0002)	(0.0002)
	0.9303***	0.9254***	0.9282***	0.9239***
Constant	(0.0826)	(0.0823)	(0.0827)	(0.0823)
	-0.0002	0.0003†	0.0001	0.0005*
Marginal Effects JV Experience	(0.0002)	(0.0002)	(0.0002)	(0.0002)
	-0.0213***	-0.0175***	-0.0211***	-0.0175**
Marginal Effects Patents	(0.0050)	(0.0053)	(0.0050)	(0.0053)
	0.0021	0.0028	0.0046	0.0047
Marginal Effects Diversified Entry	(0.0058)	(0.0058)	(0.0062)	(0.0062)
Marginal Effects JV Experience x		-0.0003**		-0.0003**
Patents		(0.0001)		(0.0001)
Marginal Effects JV Experience			-0.0004†	-0.0003
x Diversified Entry			(0.0002)	(0.0002)
N	4,675	4,675	4,675	4,675
McFadden's Pseudo R^2	0.6891	0.6894	0.6892	0.6895
Akaike's Information Criterion	3849.3052	3852.4506	3848.8303	3851.4597

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses. Firm industry, target industry, and entry year effects are included.

TABLE 5:
Results of LPM Estimation of the Choice for a More Technologically Advanced Host Country

Variables	Model 9	Model 10	Model 11	Model 12
JV Experience (H1)	0.0009†	0.0026***	0.0003	0.0019*
	(0.0005)	(0.0006)	(0.0007)	(0.0008)
Patents	-0.0355***	-0.0207*	-0.0358***	-0.0206*
	(0.0074)	(0.0085)	(0.0074)	(0.0085)
Chinese Revealed Technological	-0.1315***	-0.1360***	-0.1316***	-0.1363***
Advantage	(0.0240)	(0.0241)	(0.0241)	(0.0241)
Host Country Revealed	0.2186***	0.2143***	0.2193***	0.2151***
Technological Advantage	(0.0322)	(0.0324)	(0.0322)	(0.0324)
State Ownership	-0.1406	-0.1243	-0.1395	-0.1222
	(0.1140)	(0.1140)	(0.1141)	(0.1142)
Listed	-0.0005	-0.0019	-0.0006	-0.0021
	(0.0142)	(0.0143)	(0.0142)	(0.0143)
Subsidiary Investment	0.0622***	0.0575**	0.0623***	0.0575**
	(0.0179)	(0.0178)	(0.0178)	(0.0178)
Diversified Entry	0.0277*	0.0301*	0.0224†	0.0231†
	(0.0125)	(0.0125)	(0.0134)	(0.0133)
Years Since Last JV	-0.0000*	-0.0000**	-0.0000*	-0.0000**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Host Country IFDI	0.0271**	0.0277**	0.0272**	0.0278**
	(0.0092)	(0.0092)	(0.0092)	(0.0092)
Host Country Imports	-0.0184***	-0.0182***	-0.0182***	-0.0178***
	(0.0048)	(0.0048)	(0.0048)	(0.0048)
Host Country Exports	0.1848***	0.1848***	0.1846***	0.1846***
	(0.0103)	(0.0103)	(0.0103)	(0.0103)
Host Country GDP Growth	-0.0576***	-0.0566***	-0.0573***	-0.0562***
	(0.0096)	(0.0096)	(0.0096)	(0.0096)
Inverse Mills Ratio	-0.1140	-0.0875	-0.1128	-0.0848
	(0.1078)	(0.1081)	(0.1079)	(0.1082)
JV Experience x Patents (H2)		-0.0011***		-0.0012***
		(0.0003)		(0.0003)
JV Experience x Diversified			0.0009	0.0012
Entry (H3)			(-0.0008)	(-0.0008)
Constant	1.0347***	1.0194***	1.0388***	1.0243***
	(0.1569)	(0.1564)	(0.1570)	(0.1565)
Marginal Effects JV Experience	0.0009†	0.0026***	0.0003	0.0019*
	(0.0005)	(0.0006)	(0.0007)	(0.0008)
Marginal Effects Patents	-0.0355***	-0.0207*	-0.0358***	-0.0206*
	(0.0074)	(0.0085)	(0.0074)	(0.0085)
Marginal Effects Diversified Entry	0.0277*	0.0301*	0.0224†	0.0231†
	(0.0125)	(0.0125)	(0.0134)	(0.0133)
Marginal Effects JV Experience		-0.0011***		-0.0012***
x Patents		(0.0003)		(0.0003)
Marginal Effects JV Experience			0.0009	0.0012
x Diversified Entry			(0.0008)	(0.0008)
N	4,675	4,675	4,675	4,675
McFadden's Pseudo R^2	0.3319	0.3339	0.3321	0.3342
Akaike's Information Criterion	4188.125	4176.0432	4188.8478	4177.703

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses. Firm industry, target industry, and entry year effects are included.

Furthermore, we re-estimate hypotheses 1-3 by replacing the dependent variable by a dummy variable that captures whether or not entry occurs in an OECD country. We also run our models using a dependent variable that takes on a value of 1 if entry occurs in a more technologically developed host country according to the Bloomberg Innovation Index. We further examine the role of neighboring countries and other country ties by controlling for these in our analyses and we reran our models without two of the largest recipients of Chinese outward FDI, Hong Kong and Macau. The results of these analyses are consistent with those reported in this paper.

To examine the robustness of our joint venture experience variable we rerun our models using a binary variable that takes on a value of 1 if the firm has some domestic joint venture experience and a value of 0 otherwise and including alternative measures of the recency of the experience. Our results remain unchanged.

We include several alternative control variables, including SASAC, a variable that takes on a value of 1 if the firm is under direct control of the Chinese State-owned Assets Supervision and Administration Commission. We find no differences in our results.

Discussion

Our results clearly demonstrate that when firms have domestic joint venture experience with foreign partners they are more likely to enter host countries that are more technologically advanced. Moreover, the effects found in our analyses of the revealed technological advantage of the host country seem to indicate that when firms have experience in JVs with foreign partners prior to the focal investment, they are more likely to enter into countries that have a strong revealed technological advantage in the firm's main industry. This suggests that through their domestic collaborations, firms can upgrade their knowledge base and better prepare for international expansion. Our study thus demonstrates that domestic experience, just like

international experience (Delios & Henisz, 2003), can help firms prepare for international expansion into countries that are dissimilar to the firm's home country, either in terms of overall technological development, or with respect to the specific sector the firm is active in. We thus identify a way for firms to address the liability of foreignness prior to investing abroad, complementing research on mitigation of the liability of foreignness after investing (Mezias, 2002).

Moreover, we find that the relationship between domestic joint venture experience and the preference for more developed host countries is weaker for firms that have a strong technological knowledge base. Firms with a strong technological knowledge base are less likely to invest in technologically advanced countries than firms without this knowledge base and this is especially true if these firms also possess domestic joint venture experience with foreign firms. These results indicate that while domestic joint venture experience may help firms prepare for international expansion, this is particularly relevant for firms that lack technological capabilities. Those firms that have both joint venture experience and strong technological capabilities do not need to invest abroad to obtain access to technologies. These results suggest that while domestic joint venture experience can help firms prepare for entry into more technologically advanced countries, substitution effects seem to be present in which firms with technological capabilities use joint ventures to reduce the need for foreign direct investment to invest abroad. Firms that are actively patenting will possess a higher absorptive capacity that allows them to learn from their foreign partners (Cohen & Levinthal, 1990; Lavie, 2006; Zahra & George, 2002), particularly where this concerns complex knowledge. Those firms that lack this absorptive capacity will be limited in their ability to obtain technological knowledge from their foreign partner and as such may be forced to look to more advanced host countries to obtain this knowledge. Having collaborated with foreign partners will do little to upgrade their technological knowledge base but may have allowed for learning about foreign markets or how

to more effectively manage the firm – knowledge that may be useful when attempting to enter more technologically developed host countries.

At the same time our results also indicate that when firms possess greater technological capabilities, the effect of domestic JV experience on the distance in revealed technological advantage between the firm's home and host sector will be stronger. This implies that even though domestic JV experience may be less useful for engaging in foreign direct investment in more developed host countries when firms possess greater technological capabilities, having experience can help firms bridge the distance between the firm's domestic sector and the host country's sector, inducing the firm to invest in countries that have a greater revealed technological distance from the firm's home country in the firm's primary industry. Our results thus shed light on the circumstances under which domestic joint venture experience can induce entry into more developed or more technologically distant countries, but they also allude to the importance of understanding the revealed technological advantage of a firm's home industry and a host country's industry and how these are different from country-level distances between countries. They thereby demonstrate the complexity in trying to understand knowledge-seeking foreign direct investment.

Interestingly, we found that, contrary to our predictions, the effects of domestic JV experience are not contingent on the nature of the investment. The extent to which the firm engages in explorative or exploitative foreign direct investment does not reduce the value of domestic joint venture experience, although the nature of the investment has a direct effect on the preference for more developed or more technologically distant countries.

Our results start to address the nature of learning from alliances. Specifically, the positive effect of domestic JV Experience on the propensity to invest abroad combined with the negative moderation effect of a firm's technological capabilities indicates that domestic joint venture experience is particularly useful for foreign expansion efforts when the firm lacks

technological capabilities. When firms possess technological capabilities, or absorptive capacity, this experience is less useful. This seems to suggest that what is being learned when firms lack absorptive capacity helps firms prepare for international expansion but does not influence the firm's knowledge base. In our interviews Chinese firms indicated that their foreign partners were particularly useful for better understanding foreign markets and for upgrading the managerial capabilities of the firms – knowledge that does little for the firm's technological capabilities, but that can help a firm in preparing to invest abroad. The large and successful Chinese MNEs that we spoke to indicated that, rather than only relying on their foreign partner to bring in technological capabilities, these firms chose to invest heavily in internal R&D, which allowed them to better collaborate with their foreign partners and strengthen their global competitiveness.

We also find that the relative strength of the host country significantly affects the location choice. While strength in the firm's main industry, and thereby better access to resources at home, has a negative effect on the preference for more developed host countries, the reverse holds if the host country is strong in the target industry. This implies that home country revealed technological advantage in a firm's primary industry is beneficial in strengthening the firm's resource base and reducing the need for foreign direct investment. Home country revealed technological advantage can both aid foreign direct investment by strengthening the firm's resource base but it may also reduce the necessity for outward foreign direct investment for knowledge-seeking motivations. As such, our findings allude to the importance of considering the development of the firm's domestic industry, and particularly the revealed technological advantage of the firm's domestic sector vis-à-vis the host country's revealed technological advantage.

Our result clearly demonstrate that firms can obtain access to knowledge in different ways. While emerging market firms are generally believed to invest abroad in order to obtain

access to knowledge that is scarce in the firm's home country (Luo & Tung, 2007), our study demonstrates that firms may also be able to access this knowledge domestically through IJVs with foreign partners. The ability of firms to benefit from their domestic collaborations is contingent, however, on the firm's absorptive capacity (Zahra & George, 2002).

Furthermore, our findings indicate that when firms' domestic industry is relatively strong firms can use the presence of relevant resources and knowledge domestically to strengthen its firm-specific advantages that allow it to invest in other countries that are relatively strong in the target industry.

Contributions

By identifying the circumstances under which firms will substitute domestic for foreign knowledge-sourcing this study adds to recent studies that have started to investigate the determinants of strategic asset-seeking FDI and the role that home country factors play in this relation (Li et al., 2012; Luo & Tung, 2007). Our findings highlight that better access to resources in a firm's home country may strengthen a firm's competitive advantages, making it easier to invest in countries with more developed markets. At the same time, having superior access to knowledge domestically lessens the need for foreign direct investment in search of new knowledge.

Moreover, our findings on the effects of joint venture experience on the location choice add to the literature on the liabilities of foreignness and outsidership (Johanson & Vahlne, 2009; Zaheer, 1995). We demonstrate that domestic IJVs with foreign firms can facilitate entry into more developed countries, allowing firms to essentially obtain 'international experience' in their home country. We thereby add to the growing literature on ways in which firms can mitigate the liability of foreignness and on the role of international experience in aiding foreign

direct investment (Bell et al., 2012; Delios & Beamish, 2001; Delios & Henisz, 2003; Mezias, 2002).

We also add to the literature on foreign direct investment by emphasizing the role played by revealed technological advantage, a concept that has been largely overlooked in the international business literature (Colombelli et al., 2014; Kim et al., 2016). Our study clearly demonstrates that firms' home country revealed technological advantage in the firm's main sector plays a large role in a firm's location choice. In particular, our results suggest that home country revealed technological advantage can both strengthen firms' resource bases, making them more competitive internationally, while simultaneously influencing the motivation to invest abroad. Since revealed technological advantage is able to capture the relative strength of a country's industry it should be an important factor in driving both inward and outward foreign direct investment. This is particularly relevant in explaining resource-seeking foreign direct investment decisions and, ultimately, performance.

Moreover, our study adds to the literature on the internationalization of emerging economy firms. While many researchers have argued that emerging market firms are different in a number of ways, such as their motivations to invest abroad, the investment patterns they follow, and their location choices, few have empirically examined these differences (Child & Rodrigues, 2005; Guillén & Garcia-Canal, 2009; Hoskisson et al., 2000; Ramamurti, 2012). We add to this stream of research by highlighting how firms from less developed home countries are able to upgrade their knowledge base through domestic collaborations as well as through foreign direct investment.

Limitations

Our study is subject to a number of limitations that can be addressed in future research. First, while we identify substitution effects it is unclear if managers make deliberate choices about

where to source relevant knowledge. Follow-up studies would be necessary to determine the extent to which managers actively strategize about the location, and how managers may differ in their ability to make appropriate knowledge-sourcing decisions.

The tendency of emerging market firms to invest abroad for technology-seeking motivations has been discussed extensively in the literature (Child & Rodrigues, 2005; Deng, 2007; Guillén & Garcia-Canal, 2009; Hoskisson et al., 2000; Luo & Tung, 2007; Ramamurti, 2012). However, the extent to which the knowledge-sourcing strategies employed by emerging market firms also pertain to firms in other contexts remains unclear. While we control for many China-specific factors it would be interesting to examine the ways in which firms in more or less developed countries simultaneously use their domestic and foreign collaborations to obtain access to relevant knowledge.

In addition, our study is unable to identify heterogeneity among firms with strong technological capabilities. For instance, large MNEs that have strong technological capabilities may not need to invest abroad in search of new knowledge, but may still choose to invest in countries that are strong in their primary industry, either to serve the market, or to keep track of the competition. Moreover, we are unable to determine the extent to which extremely strong clusters, such as Silicone Valley in the United States, require investment regardless of the firm's capabilities. We believe that the Chinese here helps. With respect to the first point, we found that even if firms had strong technological capabilities, they would still prefer to invest in similar countries first, which is similar to Li Sun's finding about Huawei, and echoed in our conversations with executives. However, future research would be well-served by examining the motivation to invest abroad through more fine-grained measures. In regards to the presence of clusters, the Chinese government has been actively trying to develop their own areas of expertise, such as Shenzhen for IT and Zhuhai for (consumer) electronics, that would reduce the necessity to invest abroad to ensure proximity to clusters of expertise. The extent to which

clusters attract FDI from emerging and developing economy firms, and the ways in which these induce risk-taking in FDI would be interesting questions for follow-up research.

Moreover, the role of revealed technological advantage could be investigated further. Specifically, this study is unable to determine the extent to which home and host country technological advantage influence the propensity to invest abroad beyond influencing the location choice. Moreover, more detailed analysis would be warranted to further explicate the mechanisms underlying the observed effects.

Future research

Future research could also try to investigate the extent to which these attempts to obtain knowledge through foreign direct investment in countries that are technologically more advanced are successful. Despite extensive research on the drivers of knowledge-seeking FDI (Chung & Alcácer, 2002; Kedia, Gaffney & Clampit, 2012; Li et al., 2012; Luo & Tung, 2007), we know little about the long-term performance implications of foreign knowledge sourcing strategies. In fact, many have been skeptical about the ability of emerging economy firms to effectively source knowledge in more developed countries. Failed acquisitions in Europe and the United States have been extensively discussed in the media, and our interviews revealed that many Chinese firms struggled in these more-developed host countries. It would be interesting to empirically examine the success of knowledge-seeking foreign direct investment by emerging market multinationals.

In addition, it remains unclear to what extent knowledge sourced domestically through joint ventures with foreign partners is equally valuable as knowledge sourced through foreign direct investment. While domestic joint ventures may allow firms to access knowledge that can increase their domestic productivity, innovativeness, or induce foreign direct investment (Child & Rodrigues, 2005; Chin, 2013; Li et al., 2012; Li & Li, 2014) it is unclear to what extent this

knowledge was actually internalized. Foreign direct investment, particularly acquisitions, may provide a much better way for firms to obtain ownership of relevant knowledge and as such may be a superior vehicle for learning. Future research could examine the long term innovative performance implications of these alternative knowledge accessing strategies.

Moreover, more could be done to examine the exact nature of learning. While we provide arguments for the roles of technological and foreign market knowledge, we are unable to directly measure this learning. Especially given the general lack of research on the multifaceted nature of learning from alliances, future research would be well-served by empirical investigations of the nature of learning from IJVs and the circumstances under which such learning occurs.

Conclusion

This study has started to shed light on the ways in which domestic joint ventures with foreign partners allow emerging economy firms to upgrade their knowledge base and thereby facilitate foreign direct investment into more advanced host countries. Moreover, we demonstrate a tradeoff between domestic and external knowledge sourcing that depends' on firms' own absorptive capacity. Our findings thereby contribute to the literature on knowledge-seeking foreign direct investment, learning from alliances, and absorptive capacity and open up avenues for future research on the role of home and host country revealed technological advantage and knowledge-sourcing strategies.

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APPENDIX I

TABLE I: RESULTS

First-stage Estimation of the Propensity to Form a Joint Venture

Variable	Model 1
State Ownership	11.0372***
	(0.7316)
Patents	4.3753***
	(0.5509)
Listed	-0.7892**
	(0.2817)
Pre-1997 Wages	-0.0007***
	(0.0001)
Pre-1997 Industry Growth	0.4786***
	(0.3571)
Chinese GDP Growth	-0.3947
	(0.3283)
Chinese 1997 Revealed Technological	-0.1578
Advantage in Firm Industry	(0.2996)
Firm Industry Effects	Included
N	4,621
McFadden's Pseudo R^2	0.4866
Akaike's Information Criterion	35258.77

† p<0.10,* p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses.

Firm industry effects are included.

APPENDIX II

TABLE II
Target Countries and Number of Entries

Algeria	2	Ecuador	8	Latvia	1	Russia	67
Angola	4	Egypt	13	Lesotho	1	Saudi Arabia	16
Argentina	12	El Salvador	1	Liberia	1	Serbia	3
Australia	458	Eritrea	1	Liechtenstein	2	Sierra Leone	7
Austria	11	Estonia	2	Lithuania	1	Singapore	216
Azerbaijan	8	Ethiopia	3	Luxembourg	4	Slovak Republic	3
Bahamas	1	Finland	6	Macau	27	Somalia	1
Bahrain	3	France	70	Madagascar	3	South Africa	35
Bangladesh	6	Gabon	5	Malaysia	68	South Korea	55
Barbados	5	Georgia	2	Mauritius	1	Spain	22
Belarus	3	Germany	115	Mexico	13	Sri Lanka	5
Belgium	16	Ghana	8	Mongolia	45	Sudan	2
Bermuda	10	Greece	3	Mozambique	3	Sweden	17
Bolivia	6	Guinea	10	Myanmar	6	Switzerland	13
Botswana	1	Haiti	1	Namibia	2	Syria	5
Brazil	60	Hong Kong	1,371	Nepal	3	Taiwan	87
British Virgin Islands	58	Hungary	10	Netherlands	35	Tajikistan	8
Brunei	3	India	77	New Caledonia	1	Tanzania	4
Bulgaria	6	Indonesia	69	New Zealand	35	Thailand	56
Cambodia	10	Iran	4	Nigeria	14	Trinidad and Tobago	3
Cameroon	3	Iraq	1	North Korea	6	Tunisia	1
Canada	209	Ireland	2	Norway	9	Turkey	3
Cayman Islands	18	Isle of Man	2	Oman	2	Uganda	1
Chad	5	Israel	9	Pakistan	14	Ukraine	8
Chile	21	Italy	48	Panama	3	United Kingdom	118
Colombia	16	Ivory Coast	1	Papua N Guinea	8	United States	506
Costa Rica	6	Jamaica	4	Paraguay	1	Uruguay	2
Cuba	1	Japan	82	Peru	12	United Arab Emirates	15
Cyprus	4	Jordan	4	Philippines	29	Uzbekistan	7
Czech Republic	7	Kazakhstan	49	Poland	7	Venezuela	10
Dem Rep Congo	6	Kenya	5	Portugal	12	Vietnam	45
Denmark	11	Kuwait	1	Qatar	4	Western Samoa	1
Djibouti	1	Kyrgyzstan	4	Rep of Congo	2	Zambia	5
Dominican Rep	1	Laos	6	Romania	5	Zimbabwe	5
						Total	**4,721**

CHAPTER 4

FROM HERE TO THERE: HOME COUNTRY ALLIANCE EXPERIENCE AND FOREIGN SUBSIDIARY SURVIVAL

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FROM HERE TO THERE: HOME COUNTRY ALLIANCE EXPERIENCE AND FOREIGN SUBSIDIARY SURVIVAL

ABSTRACT

Ample research has examined the difficulties associated with early internationalization and how they can be remedied with experience expanding abroad. We examine a complementary question: Whether and under what conditions a firm can prepare for international expansion via collaborative relationships in its home country, i.e. how domestic experience with foreign strategic alliance partners matters. Recent studies have started to investigate the relation between inward and outward foreign direct investment and ways in which emerging economy firms, particularly, can learn from foreign partners. We develop knowledge-based and behavioral theory about the direction and contingencies of the relationship between a firm's experience collaborating with foreign partners in its home country, and the firm's subsequent international expansion performance (subsidiary survival). Empirical analyses using firm-level data on foreign direct investment into and out of China validate several novel predictions and add interesting contrast to some more standard ones. We further inform some predictions and findings based on fieldwork. We thus elucidate theoretically and empirically the ways and circumstances under which domestic strategic alliance experience with foreign multinationals can increase foreign venture success.

INTRODUCTION

In recent years, scholars have become increasingly interested in the role of international experience in explaining the patterns and performance of internationalization. This paper attempts to extend this literature to explain the performance of international ventures by emerging market firms as a function of their domestic experience in collaborating with foreign multinational enterprises (MNEs).

The role of international experience in firm strategies and performance has gained growing attention over the last two decades. Several studies have demonstrated that while foreign direct investment (FDI) can be particularly difficult in the early stages of firm internationalization due to the liability of foreignness, as firms accumulate international experience they are often able to reduce the effects of these barriers and thereby improve the performance of their international ventures (Barkema, Shenkar, Vermeulen & Bell, 1997; Delios & Henisz, 2003; Zahra, Ireland & Hitt, 2000). However, studies on the role of international experience in explaining subsidiary performance have paid limited attention to the ways in which firms can acquire relevant experience in their home country prior to internationalization.

Prior relations between firms can significantly influence future decisions and performance. In the international context, a number of recent studies have started to investigate the ways in which home country relationships may influence a firm's decision to expand internationally. Home country networks, for instance, may influence the propensity of firms to go abroad (Guler & Guillen, 2010; Zhou, Wu & Luo, 2007). In addition, scholars have started to investigate the ways in which home country experience with foreign MNEs may induce firms to internationalize (Gu & Lu, 2010; Thomas, Eden, Hitt & Miller, 2007). In most studies these effects were found to be

positive, while others demonstrated a negative effect of home country alliance experience with MNEs. One question that emerges from these studies is the extent to which home country alliance experience with foreign MNEs affects subsidiary performance once a firm goes abroad.

This issue is particularly interesting in the context of emerging economies. For one, some emerging economies, such as China, have seen a lot of inward foreign investment in recent decades, often taking the form of joint ventures or involving some local partner. And while we know that foreign direct investment can generate spillovers to local firms (Altomonte & Pennings, 2009; Buckley, Clegg & Wang, 2002; Chyi, Lai & Liu, 2012; Feinberg & Majumdar, 2001; Li & Li, 2014; Liu & Buck, 2007; Tian, 2007; Zhang, Li, Li & Zhou, 2010) and that firms can learn from their alliance partners (Dussauge, Garrette & Mitchell, 2000; Hamel, 1991; Kale, Singh & Perlmutter, 2000; Schoenmakers & Duysters, 2006), it remains unclear to what extent this experience can improve prospects upon internationalization. Moreover, the rapid internationalization of emerging market firms warrants further attention and offers superior opportunities to understand how these firms are able to tackle some of the challenges of internationalization. Scholars have generally been skeptical about attempts by emerging economy firms to compete internationally, particularly in more developed markets, claiming that they lack firm-specific or ownership advantages (Luo & Tung, 2007; Mathews, 2006; Ramamurti, 2012).

This paper seeks to address these issues by examining the effect of home country strategic alliance experience with foreign multinationals on subsidiary performance of emerging market MNEs. In particular, we are interested in how domestic joint venture experience with foreign multinationals can influence the foreign direct investment survival. We develop hypotheses about the effects of domestic joint venture experience on subsidiary survival and contingencies to these effects. We test our hypotheses on a sample of global Chinese foreign direct investments in in the

period 1997-2014 by looking at their domestic joint venture experience with foreign partners. In addition to our empirical analyses we draw from fieldwork conducted in China for which we interviewed over 20 managers of both Chinese and foreign MNEs about their interactions and about Chinese firms' international strategies.

By examining to what extent and under which circumstances domestic collaborations can help firms prepare for international expansion this paper seeks to add to the existing literature on strategic alliances, organizational learning, internationalization and the liability of foreignness, and emerging market firms and their strategies.

First, we add to the strategic alliance literature by examining how domestic joint venture experience may influence foreign direct investment success and the extent to which this depends on the entry mode chosen. While several studies have identified (domestic) performance effects of prior alliance experience (Anand & Khanna, 2000; Sampson, 2007) we demonstrate that home country joint venture experience does not increase foreign venture success uniformly. Specifically, we demonstrate the complexity of the transfer of alliance experience across borders by showing that the ability to benefit from domestic experience depends on the foreign activities a firm undertakes. The transfer of experience across domains is contingent on a number of factors and these are likely to depend on the nature of learning in the home country (Ellis, Reus, Lamont & Ranft, 2011; Reus & Lamont, 2009).

In addition, the organizational learning literature has identified challenges that firms face. Experiential learning is a complicated process that is subject to numerous biases (Haleblian & Finkelstein, 1999; Levinthal & March, 1993). For instance, Thomas et al. (2007) argue that domestic alliance experience may induce firms to become overly confident in their ability to invest

abroad, leading managers to oversimplify the internationalization process and thereby set themselves up for failure. We extend this line of research by demonstrating that the benefits of domestic experience with foreign MNEs are highly contingent.

In addition, we add to our understanding of firm internationalization and the liability of foreignness by comparing the success of foreign ventures of firms with and without prior domestic collaborations with foreign MNEs. While many firms may be eager to invest abroad, particularly in emerging economies, some firms may be better off by first accumulating some 'international' experience domestically before investing abroad (Child & Rodrigues, 2005; Chin, 2013; Sun, 2009). Not only do we demonstrate a thus far neglected way for firms to prepare for international expansion and overcome some of the issues associated with the liability of foreignness, we also examine which firms are most likely to benefit from joint ventures with foreign MNEs and under which circumstances they do so. We thereby identify superior foreign investment strategies for different emerging economy firms.

Furthermore, we shed light on the internationalization of emerging economy firms, and the ways in which different emerging economy firms are influenced by their collaborations with foreign MNEs. While it is clear that emerging economy firms face different issues in international expansion than developed economy firms, we have yet to fully understand the ways in which their internationalization is truly different. In this study, we seek to develop our limited understanding of the internationalization process of emerging economy firms.

The paper proceeds by first identifying the relevant strands of literature from which we seek to develop our theoretical arguments. We then use this foundation to develop hypotheses about the performance of emerging market MNEs' subsidiary performance and the way in which

we test these. Next, we discuss our results and we conclude by discussing the implications of our research.

LITERATURE

As our understanding of the performance of international ventures increases, so does our understanding of the issues that firms frequently face upon internationalization. Some of the early work on international production has pointed out that firms face costs in trying to compete with local firms, increasing the expected returns abroad necessary to give rise to foreign investment (Buckley & Casson, 1976; Hymer, 1976). In addition, it is well-known that the presence of foreign firms can generate tensions in host countries, impeding the successful operation of foreign ventures (Vernon, 1971).

Some of these difficulties are reflected in the liability of foreignness, which suggests that foreign firms will often be at a disadvantage compared to local firms due to factors such as spatial distance, unfamiliarity with a particular market, the host country environment, and home country restrictions (Brannen, 2004; Cuervo-Cazurra, Maloney & Manrakhan, 2007; Kostova & Zaheer, 1999; Zaheer, 1995). In particular, foreign firms often lack the institutional market knowledge, business market knowledge, general internationalization knowledge, relationship-specific knowledge, and general relationship knowledge necessary to effectively compete with local firms (Johanson & Vahlne, 2009). The effects of these difficulties increase with greater differences between the home and host country.

These issues may affect the pattern of internationalization by inducing firms to enter foreign markets more similar to the home country or by affecting the entry mode chosen upon

entry (Johanson & Vahlne, 2009). In addition, they may significantly depress the performance of foreign ventures. However, there may also be ways for firms to mitigate some of the negative effects of foreignness (Mezias, 2002). Moreover, it has been argued that under certain circumstances foreignness may actually be beneficial (Nachum, 2003). However, in the context of emerging economy firms expanding abroad this is less likely, as emerging economy firms are frequently thought to produce inferior products to more developed economy competitors and local (host country) governments tend to be nervous about knowledge leakage and the influence of home country governments.

One way for firms to reduce the difficulties associated with foreignness and outsidership is through international experience. When a firm first ventures abroad, it will have no first-hand experience developing a strategy for location choices, entry mode choices, etc., making the firm subject to the liabilities discussed earlier. However, as a firm accumulates experience in engaging in FDI the firm may become better aware of the challenges it is likely to face upon entry into a foreign country and the ways in which it might be able to overcome some of these challenges. As such experienced firms may venture into more distant countries (Erramilli, 1991) and may be willing to take on more risk (Chang, 1995). For instance, Delios and Henisz (2003) found that relevant international experience mitigated the deterring effects of uncertain policy environments on investment by Japanese firms. In addition, a number of studies have found positive effects of international experience on subsidiary performance. Barkema and Drogendijk (2007), for instance, found that different types of international experience significantly increased the performance of foreign subsidiaries. Moreover, there is evidence that the international experience of managers may account for some of the increased performance of foreign subsidiaries or MNEs in general (Daily, Certo & Dalton, 2000).

While we are not claiming that the kinds of experience in these studies are equivalent, they share one commonality: through international activities, firms learn to become better at these activities. This can either be directly, through learning how to engage in FDI and becoming better able to assess what is needed to successfully operate in a foreign country, or indirectly by improving firms' abilities to learn from their international operations (Zahra et al., 2000).

The extant literature demonstrates that international experience can enhance subsidiary performance and reduce some of the challenges associated with the liability of foreignness and outsidership. However, there is no reason to assume that the knowledge embedded in this notion of international experience can only be accumulated abroad. Clearly, conducting FDI will provide greater opportunities for learning how to engage in FDI but there may be ways in which firms can reduce some of the informational disadvantages associated with foreignness even prior to internationalization. In this paper we argue that one way in which firms are able to accumulate knowledge that allow them to better engage in international expansion is through the formation of strategic alliances with foreign MNEs in their home country.

Learning effects of alliances are well documented in the existing literature. Strategic alliances have been demonstrated to increase firms' performance in numerous studies (Anand & Khanna, 2000). Moreover, alliance experience has been linked to performance increases across corporate development activities, indicating that alliance experience may allow firms to obtain skills or knowledge that can be transferred to other activities within the firm (Villalonga & McGahan, 2005; Zollo & Reuer, 2010). However, the existing literature has not been able to provide insights into the ways in which alliances may help firms prepare for internationalization and thus affect performance.

At the same time, the behavioral theory of the firm has identified numerous challenges in learning from experience (Levinthal & March, 1993). In acquisitions, for instance, several studies have shown that firms have a tendency to rely on more recent acquisition experience (Baum, Li & Usher, 2000; Haleblian, Kim & Rajagopalan, 2006; Kim, Haleblian & Finkelstein, 2011). Similarly, in international joint ventures (IJVs), Reuer, Park and Zollo (2002) demonstrate that the positive relation between IJV experience and cumulative abnormal returns in new IJV formation is negatively moderated by the degree to which the focal IJV is different from prior experience. Clearly, firms have difficulty transferring experience from one setting to the next.

Only recently have scholars started to become interested in the ways in which inward FDI may influence outward FDI. At the industry level, Gu and Lu (2010) found that inward investment was positively associated with outward investment, in particular when there was direct interaction between foreign MNEs and local firms. Similarly, Thomas et al. (2007) found that firms that had collaborated with foreign MNEs were more likely to invest abroad, but they also suggested that cognitive biases negatively affect subsequent FDI performance. These studies warrant further attention to a) the mechanism through which these interactions induce internationalization, b) the degree to which this higher propensity to conduct FDI reflects an actual or perceived ability to go abroad, and c) how this in turn influences performance.

We posit that joint ventures with foreign MNEs provide local firms with access to knowledge that will increase the propensity and ability of firms to go abroad. The nature of this knowledge is likely to be diverse - it can pertain to technologies, general management skills, foreign market conditions, or how to use joint ventures abroad (Child & Rodrigues, 2005; Chin, 2013; Reuer et al., 2002). This knowledge will generally be difficult to acquire through other

means and as such it likely to improve the performance of firms in which it is embedded (Grant, 1996).

HYPOTHESES

Using the literature discussed in the preceding section, we try to understand the ways in which home country joint venture experience can affect the performance of emerging market MNEs. The knowledge-based view has long emphasized the role of superior knowledge in the development of capabilities (Grant, 1996). According to this theory, the ability of firms to recombine and transfer knowledge across borders is at the heart of the multinational enterprise (Kogut & Zander, 1993). All else equal, if the local firm is able to acquire knowledge through its partnership with a foreign corporation, then if this firm decides to go abroad it may be able to better assess and withstand the challenges associated with being foreign than firms that lack experience with foreign MNEs prior to internationalization and therefore lack this knowledge.

While the effects of an increased knowledge base or managerial capabilities may have indirect effects on FDI performance, a more direct effect on the liability of foreignness stems from the presence of foreign market knowledge. One of the most pervasive difficulties that firms encounter once they try to enter a foreign country pertains to the absence of knowledge about foreign markets (Zaheer, 1995). A lack of understanding about foreign institutions, the political environment, market standards, customer preferences, and the local culture may significantly impede a foreign firm's ability to compete effectively with local firms in a particular host country. By having collaborated with foreign MNEs in its home country, a firm investing abroad will be more aware of some of the host country challenges it is likely to face and will better understand

its relative competitiveness in the host country. If the firm then chooses to enter a particular target market this should reflect a firm's belief in its ability to overcome the liability of foreignness or a better understanding of host country factors and as such have a positive effect on subsidiary performance. We therefore expect domestic joint venture experience with foreign partners to have a positive influence on the survival of foreign entries.

Hypothesis 1: Home country joint venture experience with foreign partners has a positive effect on foreign subsidiary survival.

Hypothesis 1 derives a novel prediction about the association between domestic joint ventures and FDI survival. However, we also expect this effect to be contingent on a number of investment characteristics such as the entry mode chosen, industry characteristics, and the period in which experience was accumulate.

Entry mode choice

Investment-specific factors are also likely to influence subsidiary survival. Not only do alliances make firms more comfortable with their partner, leading to the replication of relationships (Gulati, 1995; Martin, Mitchell & Swaminathan, 1995), alliance experience generally tends to make firms more prone to use alliances in the future (Zollo & Reuer, 2010). Through engaging in a JV with an MNE a local firm may learn how to engage in JVs (Anand & Khanna, 2000), and in particular how to engage in JVs with foreign MNEs. In fact, some firms even develop their own dedicated

alliance functions – special units within the firm that focus on learning from alliances (Kale, Dyer & Singh, 2002). We therefore expect that, everything else equal, once a firm decides to go abroad it will know more about engaging in international joint ventures with foreign firms if it already has acquired some joint venture experience with MNEs in its home country.

International joint venture experience has been demonstrated to increase future IJV performance (Reuer et al., 2002). While domestically obtained IJV experience may not be the same as IJV experience obtained abroad, it should at least allow the firm to anticipate some of the challenges identified in IJVs, such as differences in national and organizational culture (Pothukuchi, Damanpour, Choi, Chen & Park, 2002; Yan & Zeng, 1999).

Accordingly, we expect that firms with home country joint venture experience with foreign MNEs should be better able to conduct joint ventures with a local partner in a different country and as such, display higher subsidiary performance than firms that have not.

Hypothesis 2: The positive effect of home country joint experience with foreign MNEs on subsidiary survival will be more pronounced if FDI occurs through a joint venture.

Diversification

The success of foreign ventures is contingent on the activities performed abroad. Both international and business diversification have been found to be significant predictors of the performance of multinational enterprises (Geringer, Beamish & DaCosta, 1989; Hitt, Hoskisson & Kim, 1997). For most firms simultaneous entries into new countries and in new industries present a significant challenge, as firms will not only have to attend to the liability of foreignness and outsidership

(Johanson & Vahlne, 2009; Zaheer, 1995) but will also be forced to address the challenges of business diversification (Hitt et al., 1997; Mayer, Stadler & Hautz, 2014). Firms will have to understand the complexities associated with entry into foreign markets, including the identification of suitable business partners, dealing with cross-cultural boundaries, and the development of relationships with local stakeholders. This should be easier for firms when they can rely on their extant knowledge base for the activities they want to conduct abroad.

However, when the firm simultaneously has to address the challenges associated with entry into a new industry managers have to direct their managerial attention and firm resources to both issues. Indeed, a study by Reuer et al.(2002) found that in IJVs the positive relation between experience and cumulative abnormal returns following IJV announcements was negatively moderated by the novelty of the new IJV. In our context, the change from a home country IJV to a foreign IJV should further complicate matters. Given the limitations associated with the division of managerial attention to multiple issues (Penrose, 1959), we should therefore expect the performance of these foreign ventures to be lower compared to situations in which the firm can rely on the knowledge it has acquired domestically.

Hypothesis 3: The positive effect of domestic joint venture experience with foreign MNEs on subsidiary survival will be less pronounced for diversified entries.

Post-WTO entry

The extent to which firms are able to benefit from their domestic experience is likely to depend on the timing of the entry. The first years after opening up, particularly in the 1980s and early 1990s there were large differences between foreign JV partners and local Chinese partners. Chinese firms in this period were still adjusting to the increasingly open investment climate. These firms were generally less (technologically) sophisticated than their foreign joint venture partners, were frequently managed less efficiently, and lacked knowledge of foreign markets (Child & Rodrigues, 2005). As such, there were many things that Chinese firms could learn from their foreign counterparts. Foreign firms seeking to enter China through a JV often were limited in their choice of Chinese partners and were frequently forced to 'educate' their local partners to facilitate collaboration. In our interviews, a director of a large European consumer electronics MNE that has been involved in joint ventures with local Chinese partners since the mid-1980s for instance revealed how his firm helped local partners redesign their supply chains to avoid holdup problems in production. Over time however, Chinese firms became increasingly technologically sophisticated, better able to educate and recruit managers, and gained better access to foreign knowledge through digitalization (Sambharya, Kumaraswamy & Banerjee, 2005). As such, foreign partners became less valuable as a source of knowledge beyond the focal joint venture. Moreover, as Chinese firms increased their own technological capabilities, foreign MNEs became increasingly concerned about potential knowledge spillovers to Chinese firms and reduced access to knowledge through legal and organizational arrangements, further reducing the value of joint ventures with foreign MNEs as a source of knowledge.

This reduction in the importance of foreign partners as a source of learning to local firms implies that the ability of Chinese firms to access and use knowledge gained through their JVs

with foreign MNEs has been steadily declining since the mid-1990s. Moreover, with the opening up of the Chinese economy it became easier for Chinese firms to invest abroad and obtain first-hand international experience. In addition, their exposure to foreign firms domestically increased due to increased inward FDI, increased global mobility allowed Chinese firms to hire knowledgeable foreigners or repatriates, and the information economy facilitated the collection of relevant knowledge prior to internationalization (Andersen & Foss, 2005; Rangan & Sengul, 2009; Sambharya et al., 2005).

These effects were particularly pronounced upon China's membership of the WTO in 2001 that lifted many restrictions on inward and outward foreign direct investment and trade and led to increases in both inward and outward foreign direct investment (Child & Tse, 2001; Law, Tse & Zhou, 2003). WTO accession significantly changed the institutional environment in China (Buckley, Clegg, Cross, Liu, Voss & Zheng, 2007) and these institutional changes opened up diverse avenues for learning from experience or vicariously through the presence of foreign firms and the increase in foreign ventures by Chinese firms (Kumaraswamy, Mudambi, Saranga & Tripathy, 2012). This vicarious learning further reduced the value of foreign partners as a source of foreign market knowledge. Now, Chinese firms were able to observe domestic competitors invest abroad and learn from their success and failure, whereas in the early stages of the opening up of the Chinese economy foreign joint venture partners provided the primary source of foreign knowledge. China's WTO entry thus reduced the need for individual firms to rely on the knowledge provided by their joint venture partners when investing abroad.

China's entry into the WTO also led to a strengthening of China's IPR regime. This implied that foreign investors were better able to protect their proprietary knowledge and that it became more difficult for Chinese firms to appropriate knowledge in joint ventures with foreign partners.

As such China's WTO entry not only reduced the necessity of Chinese firms to rely on knowledge embodied in their foreign joint venture partners, it also reduced their ability to access and use this knowledge. While a strengthening of China's IPR regime might induce foreign firms to share more knowledge with their local partners, many foreign MNEs are still reluctant to share knowledge with local Chinese partners. Our conversations with lawyers involved in trade disputes in China revealed that while the IPR regime has been strengthened, the enforcement of the IPR is facing significant challenges. In particular, it is very difficult for foreign MNEs to win trade disputes in China. As such, many foreign MNEs were skeptical about the enforcement of the tightened IPR protection.

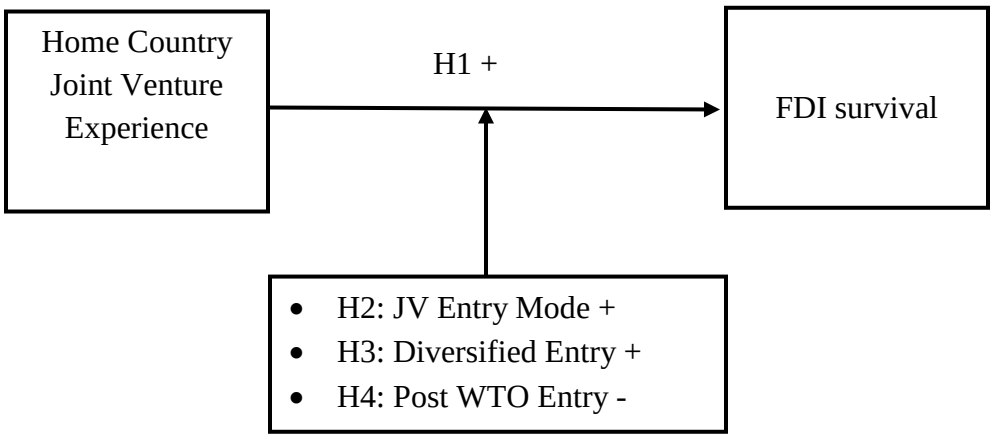
Finally, China's accession to the WTO led to loosening of restrictions on inward FDI by the Chinese government. For foreign firms seeking to invest in China this implied that they were able to use alternative entry modes to equity joint ventures with a local Chinese firm. As a result, it became more difficult for Chinese firms to find joint venture partners as foreign firms had the option to choose alternative entry modes if no suitable Chinese joint venture partner could be found.

Combining these effects we should expect that the benefits of having domestic joint venture experience should be particularly prevalent in early foreign direct investment and less useful in foreign direct investment that occurred after China joined the WTO.

Hypothesis 4: The positive effect of domestic joint venture experience with foreign MNEs on subsidiary survival will be less pronounced if entry occurred after China joined the WTO.

An overview of the hypotheses can be found in figure 1.

FIGURE 1: OVERVIEW OF THE MAIN HYPOTHESES



METHODS

We test our hypotheses on a sample of Chinese foreign direct investment in the period 1997-2014.

Data

The primary source of data is the Almanac of Foreign Economic Relations and Trade of China, or China Yearbook. This almanac, published by the Chinese Ministry of Commerce, has extensive information on China's trade relations with other countries and MNE presence in the country from 1978 up to 1997 (and for the largest 500 Sino-foreign joint ventures until 2001) and has been used in a number of studies (Cuypers & Martin, 2010; Luo & Peng, 1999). We use the almanac to develop a database of Chinese firms that have engaged in joint ventures with foreign partners in the period 1978-2001. We supplement these data with joint ventures and alliances documented in the SDC and LexisNexis Corporate Affiliations databases; leading to the identification of about 25,000 joint ventures. For our outward sample, we include all Chinese firms that engaged in foreign direct investment in the period 1997-2013. We identified these firms through a combination of SDC and LexisNexis Corporate Affiliations databases. We supplemented these data with information from a range of other data sources[1], including data on ownership and industry that we collected manually for every firm.

[1] We verified and supplemented our data by using the Qin, Orbis, and CSMAR databases and the Heritage Foundation's Global Investment Tracker. Additional information was obtained through searching news sources (both English and Chinese) and going through annual reports and company websites.

We define foreign direct investment in this study as setting up a wholly owned subsidiary, an equity joint venture, or acquiring a unit in a country other than China. We do not focus on a single host country or limit our analyses to a specific industry in order to get a comprehensive understanding of Chinese firms' outward investment. Our database contains both private and public Chinese firms.

There are a several reasons why we believe the Chinese context is the best setting to study the effects of domestic alliance experience on international expansion. First, for decades China has been a closed economy. The country lacks the long history of inward and outward investment that many other countries have, making it easier to study the phenomena of interest. Moreover, prior to 1997 the Chinese government was very reluctant to allow Chinese firms to engage in FDI. From 1997, new 5-year plans led the Chinese government to actively encourage outward investment. This setting implies that while in the 1980s inward investment in the form of joint ventures with local Chinese partners was encouraged, conducting FDI was not a feasible option for Chinese firms in that period. Chinese firms were thus exposed to inward FDI for almost 20 years before being allowed to set up their own foreign ventures. Moreover, with China's rapid growth and the increasing presence of Chinese firms in global markets our setting allows us to identify some of the drivers of Chinese firms' rapid internationalization.

Measures

Dependent variable. Survival will be analyzed by estimating a random effects logit model where the dependent variable is the probability of subsidiary i failing at time t. In this (stacked logit) event history model, survival was determined using a number of data sources. First, using the

LexisNexis Corporate Affiliations, SDC Mergers and Acquisitions (for divestitures), SDC Joint Ventures and Alliances databases we determined whether a subsidiary was still active. If the subsidiary was no longer active, we tried, using the same data sources, to obtain information on the exit year. If this was unsuccessful, we used a manual search of LexisNexis, Factiva, Annual Reports, and Company websites to determine what happened to a foreign subsidiary. As a rule, only those entries for which at least two independent sources confirmed if a subsidiary is still active and if not when an exit occurred, are included in the analyses to reduce concerns about data reliability.

Independent variables. The main independent variable is JV experience, which is a count of the firm's domestic JVs with foreign MNEs in the period 1978 up to t. While a count variable is limited in its ability to capture a complex construct such as experience, it is quite common in studies on alliance experience (Hoang & Rothaermel, 2005; Kale & Singh, 2007).

To test hypothesis 2 we include a binary variable that takes on a value of one if entry occurs using a joint venture, and zero if entry occurred using an acquisition or by setting up a Greenfield subsidiary. We considered an entry an alliance or joint venture either if it was identified specifically as a joint venture, or if it was identified as an alliance that was located outside of China. Both SDC and LexisNexis Corporate Affiliations identify joint ventures specifically. If we had to rely on alternative data sources, we manually determined whether the focal entry was a joint venture[2]. We use the interaction of this variable with joint venture experience to test hypothesis 2.

To test hypothesis three we include a variable that captures whether or not the foreign entry was outside of the firm's main industry. We examined this by comparing the firm's main NAICS

[2] This was considered the case if a local partner was involved.

code to the foreign activity's main NAICS code. NAICS codes were obtained from SDC and LexisNexis Corporate Affiliations, and manually for those entries not recorded in either database using the US Census Bureau's detailed NAICS code descriptions. A foreign entry was considered a diversified entry if the foreign activity occurred in a different 4-digit NAICS code than the firm's primary activities.[3][4] This variable, *Diversified*, was interacted with JV Experience to test our hypothesized positive interaction effect.

To examine the effects of entry timing we include a dummy variable that captures whether entry occurred after 2001, when China joined the WTO. We use the interaction of this variable with JV experience to test hypothesis 4.

Controls. Apart from these independent variables, several controls were included.

State ownership can significantly influence the motivation to invest abroad as well as other internationalization choices. We therefore control for state ownership by including a dummy variable that takes on a value of one if the firm is partially owned by the central government or a local (provincial or municipal) government, and a value of zero otherwise. The most straightforward way to measure state ownership is to look at whether or not a firm is under the direct control of the State-owned Assets Supervision and Administration Commission (SASAC). However, there are also other levels of state ownership (e.g. province or municipality level) that this measure does not necessarily account for. Therefore, we composed a different variable for state ownership that takes on a value of one if there is any level of state ownership in the firm (at

[3] Diversification is measured with respect to the Chinese parent's primary industry. In alternative specifications, we used the difference in NAICS codes as the independent variable, but we found no differences in our results. To facilitate interpretation of the interaction effect we only report the effects of the binary diversification variable.
[4] In robustness checks we used alternative specifications for diversified entry and found no significant differences in our results.

the country, province, or municipality level) and a value of zero if the Chinese government has no ownership in the firm. We collected information on this variable from numerous data sources including CSMAR, LexisNexis Corporate Affiliations, company annual reports, and company websites.

Because pressures to invest abroad may differ per firm and because sufficient funding is critical for FDI survival, we control for whether or not the firm is listed. Moreover, we expect firms with prior foreign experience to be better prepared to invest abroad and we therefore include a control for whether or not the focal firm has prior international experience. This variable takes on a value of 1 if the firm has invested before and a value of 0 otherwise. In analyses not reported here, we have also included a count variable for the number of prior foreign entries but found no differences in effects.

Because firm-specific capabilities are an important driver of the decision to invest abroad and because the firm's ability to leverage its technological expertise are likely to influence the outcome of foreign direct investment attempts we control for the firm's level of technological capabilities. The measure *Patents* is a count of the number of Chinese patents the Chinese firm possesses. We obtained data on patents granted from the State Intellectual Property Office (SIPO) of the People's Republic of China's website. These data have been used in a number of studies on innovative output of Chinese firms (Hu, 2010; Liegsalz & Wagner, 2013).

We also include a number of time-varying controls. To control for host country characteristics we include four variables. First, we control for Host Country GDP Growth to account for the attractiveness of the focal market. We also include a control for Host Country FDI Inflows to control for the foreign direct investment climate and for host country competition by

foreign firms. To measure the host country's reliance on domestic and foreign resources we further control for Host Country Imports and Host Country Exports. These variables were standardized with respect to their means. Data was obtained from the IMF's International Financial Statistics database.

We control for Chinese GDP growth as it may be indicative of the growth of the domestic market, but also of domestic wealth, which could encourage foreign direct investment. Moreover, we include Chinese Industry growth to capture industry-wide changes in production and development and possible industry-wide incentives provided by the Chinese government. These data were obtained from the IMF's International Financial Statistics Database and are based on broad industry categories. In addition, we include host country imports, exports, foreign direct investment inflows, and GDP growth obtained from CEIC. These factors may influence the decision to invest abroad, local competition, and may be indicative of market attractiveness. These variables were obtained through the IMF's International Financial Statistics and standardized with respect to their means before being included in the analyses.

It is likely that FDI survival rates differ across industries, and therefore industry dummies are included, measured as the primary 4-digit NAICS code of the Chinese firm. Moreover, the activity of the foreign investment may significantly affect subsidiary survival. For instance, an investment in a mining project in Africa is likely to have very different likelihood of survival than an R&D center set up in Silicon Valley. We therefore also include dummies for the 4-digit NAICS code of the foreign venture.

Another context-specific characteristic that we need to account for in our study is the role of policies designed by the Chinese government to actively stimulate investment and trade. In the

early eighties for instance, a number of cities in China were designated as special economic zones, where firms could benefit from a favorable investment climate, tax benefits, and subsidies. Other location factors such as proximity to national government, accessibility, and attractiveness to foreign partners may play a role in both the likelihood of entering into joint ventures with foreign firms and the propensity of firms to invest abroad. Moreover, tax policies and other financial incentives for foreign direct investment may differ per region. To control for these firm-specific effects we include dummies for the individual parent firms.

The firm effects also allow us to capture some of the unobserved heterogeneity that stems from the ability and size of the firm. In particular, an important concern is that some firms are simply better than others and this may not only influence the likelihood of forming a joint venture domestically, but also that of investing abroad and the performance of this foreign investment. While ideally one would like to capture such heterogeneity using variables such as firm size and financial performance it is impossible to obtain this information on both private and public Chinese firms. The firm effects included in our analyses help alleviate some of these unobserved heterogeneity concerns.

An additional concern is that Chinese firms that were planning to invest abroad intentionally entered into joint ventures with foreign MNEs to prepare for international expansion. While we believe these intentions may be captured by the inclusion of firm effects, we also believe the Chinese setting to reduce these concerns. Before the Chinese government started loosening restrictions on outward FDI in 1997 Chinese firms were generally not allowed to invest abroad. For Chinese firms there was significant uncertainty about future directions of the central government's policies towards outward foreign direct investment, making it difficult for Chinese firms to prepare for changes in these policies. As such, Chinese firms engaging in joint ventures

with foreign partners prior to 1997 were unlikely to form joint ventures with the goal of preparing for international expansion, something that was confirmed in our conversations with upper management of Chinese firms that engaged in joint ventures prior to 1997.

Method

Given the binary nature of our dependent variable we estimate how prior joint venture experience affects the FDI survival by specifying a logit model. The panel structure of our data implies that a fixed-effects logit model would be appropriate but due to the time-invariance of some of our independent variables a random effects specification is preferred over a fixed effect specification that would drop these variables from the analyses[5]. To test our assumption we conducted a Hausman to compare the fixed-effects model to the random effects model and found that the random effects logit model better fit our data structure. The Breusch-Pagan Langrange multiplier test indicated that there are significant differences across subsidiaries and further confirmed our choice for the random effects specification (instead of an OLS specification).

By including interactions between domestic joint venture experience and the contingencies identified in hypotheses 2-4 we attempt to identify the circumstances under which domestic joint venture experience with foreign MNEs can indeed improve the performance of Chinese firms' foreign ventures.

In addition to our empirical estimations, we seek to strengthen our arguments by substantiating our findings using qualitative data obtained through fieldwork conducted in China.

[5] As a robustness check, we ran a fixed effect model but found no significant effects on the part of the time-varying variables, while dropping the time invariant variables.

We conducted over 20 interviews with CEOs and vice-presidents of some of the largest Chinese firms from a number of industries about their interactions with foreign and local firms, their internationalization strategies, and the performance of their foreign ventures.

Combining these results should provide us with a comprehensive understanding of the way in which home country collaborations can influence the performance of foreign ventures, and as such the ways in which domestic alliance experience can help firms prepare for international expansion.

RESULTS

Descriptive statistics for our sample can be found in table 1. While the Chinese government only started to loosen restrictions on outward foreign direct investment in 1997 a couple of investments were made prior to 1997 and these have also been included in our sample. We identified 1023 individual entries of Chinese firms abroad in the period of 1987-2014. About 41% of these investments were made by firms without any joint venture experience with foreign partners in China.

Results of our analyses can be found in table 2. The dependent variable is being active in year t, such that a positive coefficient indicates a lower likelihood of exit and a negative coefficient indicates a higher likelihood of exit. To test hypothesis 1 we examine the effect of domestic joint venture experience on FDI survival in model 1. The main effect of joint venture experience on the hazard of failing is negative but not significant, indicating that joint venture experience does not significantly affect subsidiary survival. As such, we find no support for hypothesis 1.

TABLE 1: DESCRIPTIVES

	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8
1. Active in Year t	0.96	0.19	0	1	1							
2. JV Experience	8.31	14.19	0	76	0.04*	1						
3. JV Entry Mode	0.35	0.48	0	1	0.08*	0.01	1					
4. Diversified	0.62	0.48	0	1	0.02	-0.05*	0.04*	1				
5. Post-WTO Entry	0.90	0.30	0	1	0.01	-0.17*	-0.11*	-0.03*	1			
6. OECD Member	0.38	0.49	0	1	-0.08*	-0.18*	-0.12*	0.06*	0.07*	1		
7. Political Distance	0.26	0.23	0	0.69	-0.05*	-0.17*	0.06*	0.00	0.09*	0.72*	1	
8. Cultural Distance	1.99	1.62	0.32	5.14	-0.08*	-0.15*	-0.06*	0.02	0.11*	0.83*	0.77*	1
9. State Ownership	0.40	0.49	0	1	0.04*	0.52*	0.07*	0.02	-0.06*	-0.08*	-0.04*	0.00
10. Listed	0.26	0.44	0	1	-0.02	-0.08*	-0.25*	0.02	0.13*	-0.06*	-0.06*	-0.07*
11. Patents	2035	5607	0	49940	0.02	0.34*	0.10*	0.00	0.06*	-0.05*	0.06*	0.05*
12. Entry Year	2003	6.57	1986	2014	-0.08*	-0.36*	-0.27*	-0.04*	0.50*	0.19*	0.21*	0.25*
13. Last JV Year	1144	994	0	2013	0.04*	0.50*	0.04*	-0.07*	-0.02	-0.06*	-0.04*	-0.02
14. Int. Experience	15.60	28.69	1	107	0.03*	0.79*	-0.05*	-0.07*	-0.11*	-0.17*	-0.19*	-0.09*
15. Chin. GDP Growth	0	1	-0.25	5.44	-0.04*	-0.08*	0.00	-0.04*	0.03*	0.35*	0.15*	0.35*
16. HC Imports	0	1	-2.02	1.10	-0.01	-0.13*	-0.08*	0.01	0.12*	0.47*	0.14*	0.31*
17. HC GDP Growth	0	1	-1.92	1.14	0.03*	0.06*	0.09*	-0.06*	-0.03*	-0.35*	-0.19*	0.32*
18. HC IFDI	0	1	-0.84	3.99	-0.01	-0.12*	-0.16*	0.04*	0.12*	0.31*	-0.06*	0.27*
19. HC Exports	0	1	-3.58	9.17	0.02	-0.08*	-0.11*	0.04*	0.10*	0.17*	-0.02	-0.22*
20. Chinese Exports	0	1	-1.52	5.37	0.02	-0.27*	-0.15*	-0.03*	0.54*	0.26*	0.23*	0.19*
21. Chinese IFDI	0	1	-0.73	5.73	0.02	-0.27*	-0.15*	-0.03*	0.51*	0.27*	0.23*	-0.12*
22. Target NAICS	399	229	000	930	0.06*	0.04*	0.03*	0.06*	-0.07*	-0.31*	-0.40*	-0.44*
23. Parent NAICS	403	225	110	922	0.01	0.08*	-0.01	0.08*	-0.12*	-0.17*	-0.28*	-0.27*

TABLE 1 (continued)

	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
9	1														
10	-0.01	1													
11	0.15*	-0.02	1												
12	-0.20*	0.27*	0.04*	1											
13	0.55*	0.01	0.30*	-0.13*	1										
14	0.42*	-0.14*	0.31*	-0.26*	0.41*	1									
15	-0.08*	0.02	0.00	0.05*	-0.10*	-0.06*	1								
16	-0.15*	0.16*	0.01	0.59*	-0.15*	-0.22*	0.30*	1							
17	-0.15*	0.16*	0.01	0.56*	-0.15*	-0.21*	0.31*	0.99*	1						
18	-0.11*	0.05*	-0.05*	0.12*	-0.10*	-0.14*	0.79*	0.43*	0.44*	1					
19	0.04*	-0.04*	0.03*	-0.10*	0.04*	0.08*	-0.10*	-0.16*	-0.16*	-0.22*	1				
20	-0.12*	0.12*	-0.06*	0.11*	-0.12*	-0.12*	0.71*	0.43*	0.44*	0.78*	-0.14*	1			
21	0.01	0.03*	-0.05*	0.12*	0.00	-0.09*	-0.18*	0.14*	0.14*	0.23*	-0.17*	0.05*	1		
22	-0.10*	0.13*	-0.11*	-0.15*	-0.00	-0.02	0.04*	-0.11*	-0.11*	0.11*	-0.00	0.17*	0.05*	1	
23	-0.06*	0.03*	-0.25*	-0.18*	-0.03*	0.00	0.00	-0.11*	-0.11*	0.05*	-0.02	0.12*	0.04*	0.53*	1

TABLE 2: RESULTS

Variables	Model 1	Model 2	Model 3	Model 4	Model 6
JV Experience (H1)	-0.0466	-0.0704*	-0.0736*	0.0230	0.0071
	(0.0255)	(0.0281)	(0.0291)	(0.0455)	(0.0504)
State Ownership	0.4763	0.4576	0.4841	0.4739	0.5008
	(0.4760)	(0.4827)	(0.4757)	(0.4938)	(0.4820)
Listed	-0.0545	-0.1659	-0.0706	-0.0504	-0.1191
	(0.3737)	(0.3803)	(0.3746)	(0.3847)	(0.3786)
Patents	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Diversified Entry	0.5563†	0.5342	0.1738	0.5175	0.1199
	(0.3337)	(0.3383)	(0.3723)	(0.3481)	(0.3749)
Last JV Year	0.0001	0.0001	0.0001	0.0001	0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Number of Prior Entries	0.0112	0.0170	0.0116	0.0116	0.0173
	(0.0104)	(0.0112)	(0.0106)	(0.0108)	(0.0116)
Host Country Revealed Comparative Advantage	0.2450	0.2254	0.1697	0.2070	0.0229
	(0.4649)	(0.4697)	(0.4647)	(0.4790)	(0.4666)
JV Entry Mode	0.9695*	0.2904	0.9104*	1.0009*	0.4960
	(0.4539)	(0.5139)	(0.4559)	(0.4841)	(0.5199)
Chinese GDP Growth	-0.8256***	-0.8150***	-0.8229***	-0.7995**	-0.8008**
	(0.2450)	(0.2464)	(0.2445)	(0.2477)	(0.2458)
Host Country Imports	0.6993*	0.7024*	0.7304*	0.6601*	0.7139*
	(0.2935)	(0.2959)	(0.2935)	(0.2982)	(0.2977)
Host Country GDP Growth	-0.0349	-0.0365	-0.0331	-0.0311	-0.0396
	(0.1248)	(0.1255)	(0.1247)	(0.1251)	(0.1249)
Host Country FDI Inflows	0.1664	0.1617	0.1702	0.1931	0.1942
	(0.1990)	(0.1992)	(0.1990)	(0.1996)	(0.1979)
Host Country Exports	-0.0199	-0.0278	-0.0134	-0.0048	-0.0256
	(0.1609)	(0.1621)	(0.1601)	(0.1661)	(0.1612)
OECD Member	-1.8187***	-1.7936***	-1.8913***	-1.7551***	-1.2836**
	(0.4357)	(0.4418)	(0.4394)	(0.4630)	(0.4721)
Post-WTO Entry	-0.3459	-0.3592	-0.3544	0.4509	0.2657
	(0.5298)	(0.5357)	(0.5314)	(0.6147)	(0.5965)
JV Experience x JV Entry Mode (H2)		0.1224*			0.0981†
		(0.0507)			(0.0523)
JV Experience x Diversified Entry (H3)			0.0697*		0.0835*
			(0.0321)		(0.0384)
JV Experience x Post-WTO Entry (H4)				-0.0779†	-0.0713†
				(0.0404)	(0.0400)
Constant	6.7441***	6.8638***	7.0044***	5.6937***	5.7651***
	(1.2524)	(1.2732)	(1.2675)	(1.3883)	(1.3136)
N	4684	4684	4684	4684	4684
Log-Pseudolikelihood	-745.9273	-743.3097	-743.9055	-744.6084	-736.3124
Akaike's Information Criterion	1583.8545	1580.6195	1581.811	1583.2168	1572.6249

Results of the random effects logit analysis. Standard errors are in parentheses and clustered at the entry level. Significance levels: † p < 0.10, * p < 0.05, ** p < 0.01, *** p< 0.001. Parent fixed effects, firm industry, target industry, and entry year effects are included.

TABLE 3: MARGINAL EFFECTS					
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
JV Experience (H1)	-0.0466	-0.0704*	-0.0736*	0.0230	0.0071
	(0.0255)	(0.0281)	(0.0291)	(0.0455)	(0.0504)
JV Entry Mode		0.2904			0.4960
		(0.5139)			(0.5199)
Diversified entry			0.1738		0.1200
			(0.3723)		(0.3749)
Post-WTO Entry				0.4509	0.2657
				(0.6147)	(0.5965)
JV Experience x JV Entry Mode (H2)		0.1224*			0.0981*
		(0.0507)			(0.0523)
JV Experience x Diversified (H3)			0.0697*		0.0835*
			(0.0321)		(0.0384)
JV Experience x Post-WTO Entry (H4)				-0.0779*	-0.0713†
				(0.0404)	(0.0400)

Standard errors are in parentheses and clustered at the entry level. Significance levels: † p < 0.10, * p < 0.05, ** p < 0.01, *** p< 0.001. Parent fixed effects, firm industry, target industry, and entry year effects are included.

To ensure that multicollinearity was not a concern in our analyses we calculated the Variable Inflation Factors (VIFs) in our models. All values were well below the critical value of 10 and tolerance values were well above 0.1, leading us to conclude that multicollinearity is not a significant issue in our models.

Our second hypothesis examines the extent to which the entry mode choice has an influence on the effect of domestic joint venture experience on FDI survival. Therefore, in model 2 we interact domestic joint venture experience with joint venture entry mode. Our results indicate that there is a strong significant effect of joint venture entry mode on the relation between domestic joint venture experience and the exit hazard. The coefficient of JV Entry Mode is positive, indicating that joint ventures are more likely to be dissolved than the baseline, but the effect is not significant. However, the interaction effect is positive and statistically significant, and as such, we find strong support for hypothesis 2. This is in line with findings of previous studies on the role of alliance experience on future alliances (Anand & Khanna, 2000; Makino & Delios, 1996).

Interestingly, in this model the main effect of domestic JV Experience becomes statistically significant and negative.

Marginal effects are reported in table 3. An inspection of the marginal effects reveals that for every additional joint venture, the likelihood of subsidiary survival increases with 12% if the firm enters using a joint venture. A plot of the marginal predictions in Appendix I, however, does not reveal a significant difference in the slopes for firms that use a joint venture as an entry mode. One explanation for this may be found in the range of observations. Our sample includes several firms with very high numbers of joint venture experience. These firms may then not be very representative of the relationship between domestic joint venture experience and subsidiary survival. Exclusion of these observations, however, could further induce biases in our results and as such, we believe that these graphs should be interpreted with caution.

We test our third hypothesis in model 3 by including an interaction term for JV Experience and Diversification. The coefficient for this interaction has the predicted positive sign and is statistically significant, indicating that domestic joint venture experience is particularly valuable when firms engage in diversified foreign direct investment. We thus find support for hypothesis 3. In addition, upon inclusion of the interaction term Akaike's Information Criterion (AIC) decreases, indicating that the inclusion of the interaction term significantly increases model fit. An examination of the marginal effects reveals that for every additional joint venture, the likelihood of subsidiary survival increases with 7% if the foreign entry presents a diversified move. The predictions of the marginal effects are plotted in Figure 2 in appendix I and while there appear to be some differences in the slopes of the relation between domestic JV experience and the likelihood of survival, the 95% confidence intervals only provide limited support for hypothesis 3.

To test hypothesis 4 in model 4 we include the interaction term of domestic joint venture experience and post-WTO entry. Upon inclusion of this interaction term the main effect becomes positive, suggesting that domestic joint venture experience positively influences foreign subsidiary survival. While the main effect of WTO is positive but not statistically significant, the interaction term is statistically significant and negative, indicating that the negative effect of joint venture experience on subsidiary survival found in Model 4 is particularly pronounced for entries that occurred after China joined the WTO. This is in line with our prediction in hypothesis 4. Furthermore, an inspection of the marginal effects in Model 4 (and in Figure 3 of Appendix I) reveals that for every additional joint venture, the likelihood of survival decreases with about 8%.

Beyond our predicted results, we find that state ownership, surprisingly, generally has no significant effect on FDI survival, neither does being listed, or the technological capabilities of the firm, some of which may be captured by the parent fixed effects included in our models. In line with the established literature on entry mode choice and joint ventures, we find that joint ventures are more likely to survive, presumably because they are less risky than alternative entry modes. We further find that host country imports significantly increase the likelihood of foreign subsidiary survival. This variable is likely to reflect the host country's need for foreign resources. In addition, the results indicate that Chinese GDP Growth is negatively related to foreign subsidiary survival. One explanation for this may be that strong growth in the Chinese market may lead Chinese firms to focus their efforts on their domestic market and as such reduce their attention to their foreign subsidiaries. Finally, our results indicate that entry into more developed host countries is associated with a greater likelihood of exit, which is in line with our arguments that more developed host countries bring greater challenges for emerging market firms. We do not find significant effects for our other control variables, even though their inclusion does improve model fit.

Robustness checks

In addition to the inclusion of the propensity score in our analyses, we perform robustness checks to assess the extent to which unobserved heterogeneity may influence our results. First, it may be that firms that engage in joint ventures domestically are more likely to perform better once they invest abroad than firms that do not engage in joint ventures. While we attempt to control for this using firm and time fixed effects in our analyses we also estimate propensity scores for the propensity to engage in joint ventures in the first place. We then include these propensity scores in a Cox proportional hazard model where the dependent variable is the hazard of failing (exiting), conditional upon having survived up to time t. This is a common procedure in the medical literature, where Cox proportional hazard models are used frequently, and has been used in many studies in top medical journals (Austin, Mamdani, Stukel, Anderson & Tu, 2005; Frolkis, Pothier, Blackstone & Lauer, 2003; Mehta et al., 2001). The results of these analyses were in line with the results presented in tables 2 and 3.

In addition to accounting for the propensity to engage in joint ventures, we also use coarsened exact matching (CEM) to match those firms that have engaged in joint ventures with similar firms that have not engaged in any joint ventures. This method has been used in a number of recent studies (Alcacer & Oxley, 2014; Leung & Sharkey, 2013; Singh & Agrawal, 2011) and provides good matches for samples that contain many categorical variables, such as our sample. We used the resulting, smaller sample to test our hypotheses and found no change in results.

We also used different specifications for some of our variables. First, the analyses reported in table 2 measure state ownership as having any government ownership (municipal, provincial, or central). A more direct measure of state ownership was also included. This variable takes on a

value of 1 if a firm is under the direct control of the Chinese State-owned Assets Supervision and Administration Commission, and a value of zero otherwise. Including this variable instead of our SOE measure did not change our results.

DISCUSSION

Implications and contributions

Our results indicate that despite some recent studies suggesting otherwise, emerging economy firms can benefit from collaborating with foreign partners in their home country prior to internationalization. However, our results also indicate that these effects depend on a number of factors.

First, we find no consistent statistically significant effect of domestic JV experience on foreign subsidiary survival. As such, we cannot conclude that domestic JV experience is always beneficial in foreign direct investment. This is in line with the findings of Thomas et al. (2007), who argued that despite the potential positive effects of domestic collaborations with foreign MNEs, firms are subject to cognitive biases in extending their domestic experience to other contexts. In particular, they tend to be prone to overconfidence based on limited experience. These challenges in the experiential learning process may diminish some of the positive effects of domestic joint venture experience such as better foreign market knowledge and strengthened capabilities.

For joint ventures we compelling evidence that, similar to findings from single country studies (Anand & Khanna, 2000; Zollo & Reuer, 2010), in the international context domestic joint

venture experience is particularly helpful when entering using a joint venture, but less so when entry occurs through an acquisition or setting up a Greenfield subsidiary. This implies that even in the international context having experience in joint ventures domestically can help firms prepare for foreign ventures in which their role is likely to be very different. We thus extend the line of research investigating learning from alliances in a purely domestic (Villalonga & McGahan, 2005; Zollo & Reuer, 2010) or purely international context (Reuer et al., 2002) by considering how domestic JV experience can benefit IJV formation and survival.

We also find that the extent to which Chinese firms were able to benefit from their domestic collaborations is closely tied to the timing of their entry. Our results demonstrate that the earlier entry occurred, the more useful it was for the Chinese firm to have some prior experience with foreign partners. This finding echoes the opening up of the Chinese economy and the development of Chinese firms. In the early stages of opening up there was greater potential for learning as foreign partners were generally much more advanced than local Chinese partners were. Our interviews with managers from foreign MNEs indicate that in this period for instance, MNEs were generally not concerned about knowledge spillovers to local partners but often helped educate their local partners to facilitate collaboration.

In particular, the majority of our interviews revealed that joint ventures with foreign partners allowed Chinese managers to upgrade their managerial capabilities. For example, one director of a foreign MNE with several joint ventures in China explained how his firm taught its local Chinese partners in the late 1980s and early 1990s how to completely redesign their supply chains in order to avoid holdup problems that would eventually hurt the foreign partner. Other Chinese managers indicated that through joint ventures with foreign partners their firms were able

to learn about strategic decision-making processes and managerial practices that they subsequently adopted in other parts of their firm as well.

This greater potential for learning and the willingness of foreign MNEs to engage in education of their local partners implied that Chinese firms with joint ventures were able to learn from their partner and, compared to firms lacking this experience, were better prepared for international expansion. Moreover, during this period Chinese firms were primarily focused on the expanding Chinese market and had limited access to knowledge about foreign markets, making joint venture partners a valuable source for learning about foreign firms, markets, and technologies.

As the Chinese economy continued to open up, loosening restrictions on both inward and outward FDI however, a couple of elements changed in the way foreign firms and Chinese firms collaborated in joint ventures. For one, foreign partners became increasingly concerned about knowledge spillovers to local Chinese firms, taking a more active role in protecting their proprietary knowledge from spilling over to the local partner. Second, Chinese firms became increasingly sophisticated, investing more in R&D, finding better ways to recruit employees, becoming more efficient in developing and using managerial skills, thereby reducing the value of foreign partners for bringing in valuable knowledge. Finally, the opening up of the Chinese economy and the rise of the Internet increased Chinese firms' exposure to foreign influences and facilitated the access to knowledge about foreign markets. Combined, these factors have significantly reduced the positive effect of domestic joint venture experience for entries that occurred at later stages of China's opening up.

These findings suggest that joint ventures with foreign partners provide a useful source of knowledge in situations where local firms are less developed than their foreign counterparts, access to local knowledge is scarce, and knowledge spillovers are not a major concern for foreign partners. In these situations, local firms can significantly benefit from collaborating with foreign MNEs and use the knowledge obtained through their collaborations to prepare for international expansion. These findings have particularly relevant implications for developing economies that are becoming increasingly attractive destinations for foreign direct investment by western and emerging economy firms. Local firms may be able to upgrade their knowledge base through collaborating with MNEs.

Our findings also indicate that, contrary to our predicted negative moderation effect, domestic joint venture experience with foreign MNEs is particularly useful if the firm engages in a diversified entry. We find that the negative performance effects of simultaneously crossing country and industry borders may be reduced by having international experience. One explanation for this may be that when firms are better able to address the liabilities of foreignness and outsidership by being better prepared for international expansion they have more time and resources at their disposal to attend to the challenges of business diversification.

Furthermore, our results suggest that domestic collaboration with foreign partners can also be detrimental to subsidiary survival when entry occurs into more developed host countries. One reason for this may be that the knowledge obtained through domestic JVs with foreign partners is not very useful for investment in more developed host countries. Despite the emphasis on technological knowledge in the literature on FDI spillovers, we found little evidence of technological learning by Chinese firms in our interviews with CEOs. Instead, learning particularly applied to managerial capabilities and foreign markets. However, when emerging economy firms

invest in more advanced host countries, they often lack the technological expertise necessary to compete with local firms. Domestic JVs with foreign firms may then have made Chinese firms overly confident in their ability to compete with these more developed counterparts, in the same way as they underestimated cultural distance. Our interviews with Chinese managers revealed that many Chinese firms that invested abroad often struggled with understanding the institutional environment of their host country. In their foreign ventures, Chinese firms often encountered difficulties associated with the political and legal environment that they did not anticipate. This is reflected in our findings on the effects of entry into a more developed host country.

Contributions

Overall, this paper provides insights into the extent to which home country relations increase FDI performance. Several studies have identified a relation between home country alliance experience with MNEs and the propensity to go abroad and while many have found a positive effect of home country interactions with foreign MNEs on the propensity to invest abroad, the performance effects have been inconclusive (Gu & Lu, 2010; Li, Li & Shapiro, 2012; Thomas et al., 2007). One of the reasons why this is the case may be the lack of firm and alliance level data. This study adds to this stream of literature by identifying relevant variables that help tease out the effects of home country alliances with foreign MNEs on the performance of foreign ventures once a firm decides to engage in FDI. We show firms that have engaged in prior collaborations with foreign MNEs can be more successful in their foreign ventures than firms without this experience only under certain circumstances. Moreover, our results clearly demonstrate that both the magnitude and the direction

of the effects of domestic JV experience on the performance of foreign subsidiaries depend on investment characteristics.

In particular, we demonstrate that the combination of behavioral and knowledge-based arguments can start to explain the inconclusive results by previous studies on domestic collaborations and international expansion. We thus refine our understanding of the circumstances under which firms can use knowledge gained domestically in their international expansion efforts.

Our study adds to the alliance literature by demonstrating that while domestic joint ventures can increase FDI survival, these effects will be particularly pronounced if FDI occurs through the establishment of a foreign joint venture, rather than through a different entry mode. Our results clearly show that the benefits of alliance experience that have been demonstrated in other studies (Anand & Khanna, 2000; Zollo & Reuer, 2010) also translate into increased joint venture performance in other countries. This finding suggests that the transfer of experience across national boundaries can significantly benefit the performance of foreign ventures and thereby extends this stream of literature into the international context.

In addition, by empirically testing the ways in which joint ventures with foreign MNEs can give rise to learning by local firms we identify a way in which firms can better prepare for international expansion. As such, we explicitly address how the liability of foreignness and its effects can be reduced by actions undertaken prior to internationalization and its effects on the performance of foreign subsidiaries (Bell, Filatotchev & Rasheed, 2012; Mezias, 2002), particularly when engaging in diversified entries. We thereby complement extant work that attempts to identify ways of mitigating the effects of the liability of foreignness.

This last point is particularly appropriate in light of the increasing international presence of emerging economy firms. The increasing global presence of firms from emerging economies warrants a better understanding of their unique characteristics and the challenges they face. Although we believe our findings extend beyond the emerging economy context they are particularly relevant here because emerging economy firms frequently interact with foreign MNEs. Moreover, the emerging economy context is one where institutional and technological differences between emerging economies and more developed countries are large, and rapid internationalization is influenced by the need to acquire different types of knowledge (Hoskisson, Eden, Lau & Wright, 2000). This study sheds light on one of the ways in which emerging economy firms may prepare for internationalization by collaborating with foreign MNEs in their home country and thereby contributes to the growing literature on emerging economy multinational enterprises.

Limitations and future research

This study is subject to a number of unaddressed issues. First, the identification of performance effects by itself is useful. However, our results leave us unable to empirically determine the relative importance of the different types of knowledge. Our interviews with managers clearly demonstrated that different things were learned through collaborations with foreign partners and our results suggest that the content of learning may influence the usefulness of a firm's experience. While our fieldwork and discussion shed light on factors that may influence the content of learning a more extensive inquiry into the circumstances under which different types of learning take place and how these in turn influence firms' competitiveness would be useful.

Another issue pertains to the role of motivations. In this study, we have not explicitly considered the role of motivations in both the alliance and the outward investment. It is possible that local firms with a global strategy in mind could seek out foreign partners that would benefit their future internationalization. This could affect the way in which the local firm is able to learn from the MNE, for instance by developing a deliberate plan to learn from its foreign partner. In the Chinese context, this was only possible after 1997. Prior to the Chinese government's loosening of outward FDI restrictions, Chinese MNEs were unable to invest abroad and it would have been hard to predict if and when they would be allowed to do so. Motivations may also play a role in outward investment and this study is unable to address the way in which the effect of home country alliance experience with foreign multinationals on the performance of foreign subsidiaries is contingent upon the motivation to go abroad. At the same time, we try to account for this by controlling for the foreign subsidiary's primary activity.

While subsidiary survival has generally been accepted as a valid measure of FDI performance, its validity is dependent on the motivation to invest abroad. For instance, if foreign direct investment is driven by knowledge-seeking motivations, particularly if the foreign entry's goal is to obtain knowledge to strengthen the firm's position in its domestic market, then dissolution may reflect the successful acquisition of knowledge-based assets instead of failure. In those cases, early dissolution may actually indicate foreign venture success. Given the propensity of emerging economy firms to invest in more developed host countries in order to gain access to knowledge that is scarce in the firm's home country, the negative interaction effect of JV experience and more developed host country may actually reflect an increased ability to invest abroad, gain access to the required knowledge, and subsequently dissolve the foreign venture once it has served its purpose. More research is needed to understand the complex relation between

motivation, host country, and performance, and the effect of domestic joint venture experience on this relation.

We are not claiming that firms that engage in joint ventures with foreign MNEs are necessarily better than other firms in their local market are; we are simply showing that *everything else equal* firms that have engaged in joint ventures with foreign MNEs will be more aware, better prepared, and better able to expand internationally, but only under certain conditions. Future research however would be well-served by a rigorous comparison of the ways in which firms that collaborate with foreign MNEs in their home country and those that do not differ not only in their domestic operations but also in their internationalization.

Future research could also serve to strengthen our findings. In particular, while we find some support for our hypotheses, the marginal effects and interaction plots are unable to convincingly demonstrate the economic significance of our findings. This may be partly due to the use of rather crude measures that stem from data limitations. In particular, measures such as financial performance or more sophisticated moderators may yield better insights into the boundary conditions of domestic joint venture experience and FDI performance. While these are unavailable for the sample used in these studies, it may be worth investigating the effects of domestic JV experience in other settings to triangulate our results and better understand the complexities of the interaction effects.

Whereas our focus here is strictly on the local firm, it would be interesting to examine the ways in which foreign MNEs benefit from collaborations with local firms. Future research could investigate the extent to which MNEs learn from their local partners, the exact content of this learning, and how learning takes place. Moreover, while we briefly discussed them in the results

section, the global competitive implications of alliances between MNEs and local firms are not well understood and deserve further attention.

Conclusion

This paper has started to shed light on the ways in which joint ventures with foreign MNEs in a firm's home country may allow it to gain knowledge that can provide the foundation on which to build future internationalization. Our empirical estimations demonstrate how home country joint venture experience can increase foreign venture success, and the circumstances under which these effects are manifested, and thereby open up new avenues for further inquiry into a topic that is particularly relevant in light of the rapid internationalization of emerging economy firms.

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APPENDIX I

FIGURE 1: INTERACTION EFFECTS OF JV EXPERIENCE AND JV ENTRY MODE

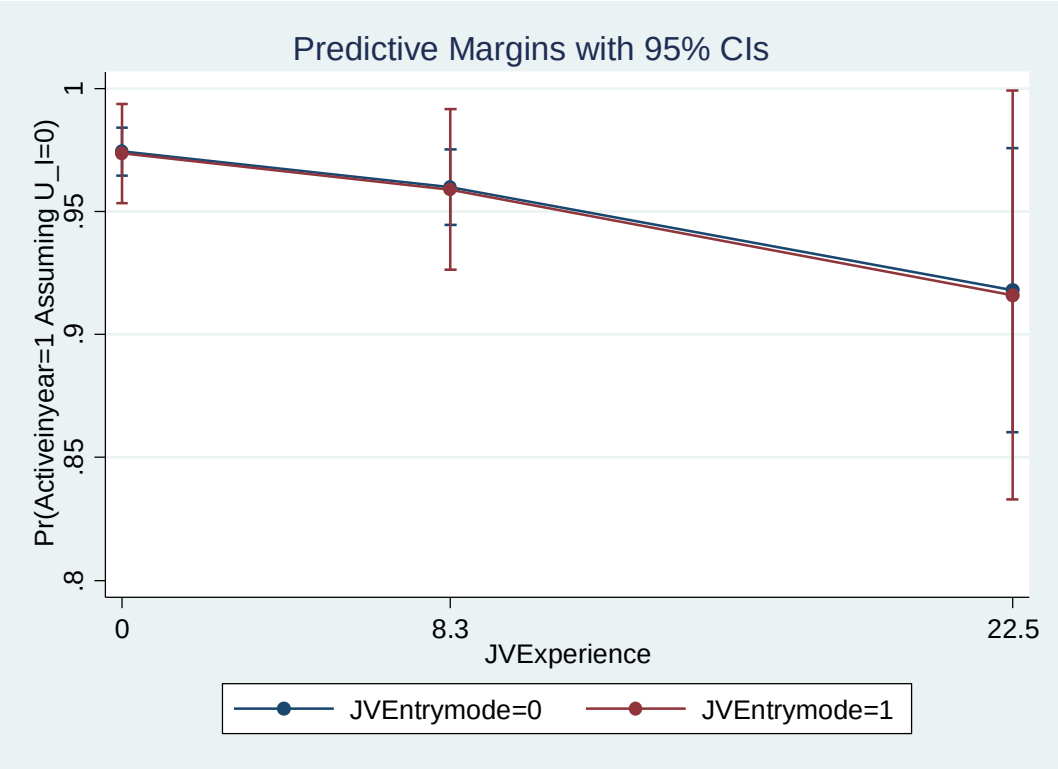


FIGURE 2: INTERACTION EFFECTS OF JV EXPERIENCE AND DIVERSIFICATION

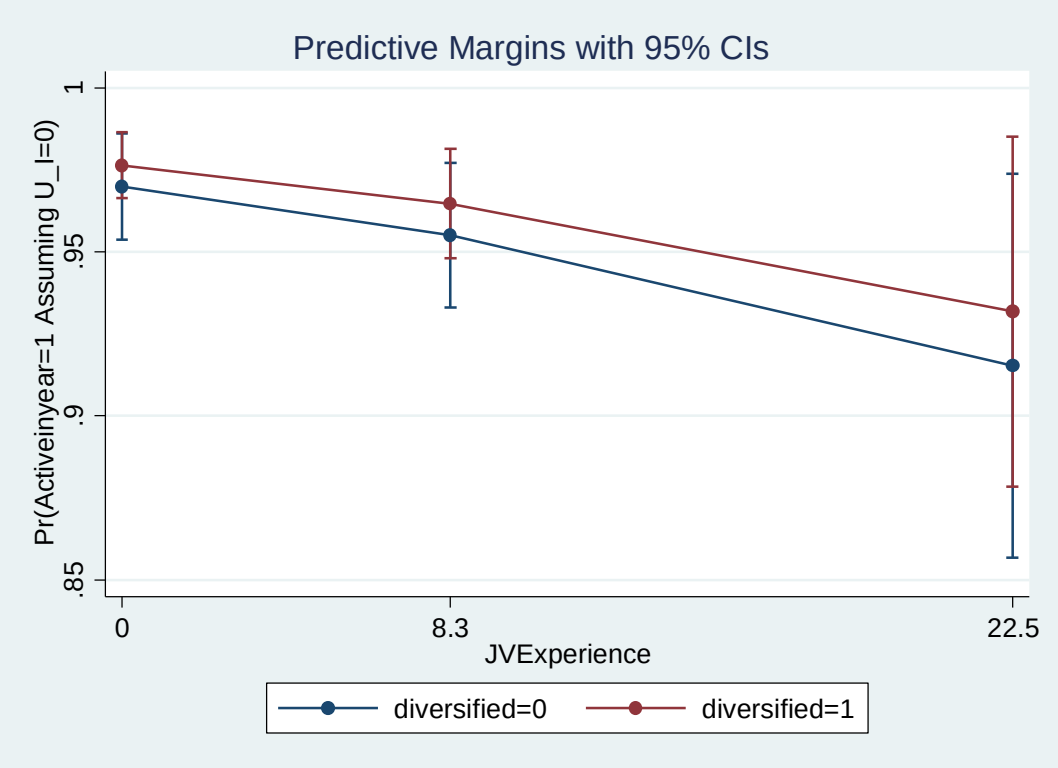
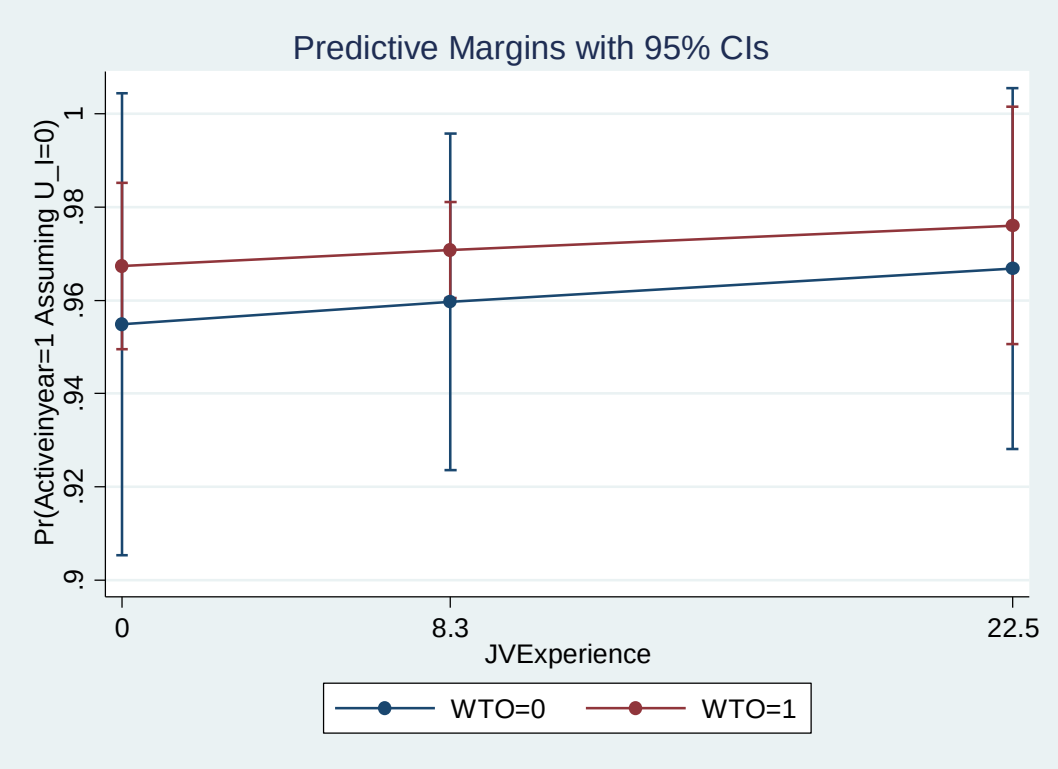


FIGURE 3: INTERACTION EFFECTS OF JV EXPERIENCE AND WTO



CHAPTER 5

CONCLUSION

This dissertation has attempted to address the ways in which domestic collaborations with foreign MNEs can influence the internationalization of emerging market firms. Specifically, I have investigated to what extent and under which circumstances domestic joint ventures with foreign partners have allowed Chinese firms to prepare for international expansion. The individual chapters in my dissertation all provide insights into different aspects of the relation between domestic joint venture experience and internationalization.

Chapter 2 has examined the effects of domestic joint venture experience on the propensity of firms to invest abroad and the choice of entry mode. The results reveal that domestic joint ventures significantly increase the propensity of Chinese firms to invest abroad. While being in a high-tech industry was not found to moderate the relation between domestic experience and the likelihood of foreign direct investment, we found that the experience effects were less pronounced if the experience was obtained recently. Moreover, the results indicate that in addition to influencing the propensity of firms to invest abroad, domestic experience also makes firms more likely to choose a joint venture over alternative entry modes when investing abroad.

In addition to these effects, in chapter 2 I studied how domestic joint venture experience influenced the location choice. Here, I examined how domestic collaborations with foreign partners could substitute for knowledge-seeking foreign direct investment and the role of the firm's own capabilities in influencing the benefits of domestic experience and the necessity for investment in more developed host countries to access relevant knowledge. The analyses clearly demonstrate that while domestic experience increases the propensity of firms to invest

in more technologically developed host countries (as opposed to less developed host countries). This relationship is negatively moderated by firms' technological capabilities, measured through patents. This implies that even though joint ventures may allow firms to access knowledge that can be used in expansion into more technologically sophisticated countries, if firms possess relevant technological capabilities they may be able to learn more about technologies through their domestic collaborations and in addition will be less inclined to invest abroad for technology seeking motivations, thus reducing the positive effect of domestic experience on the likelihood of investing in a more technologically advanced host country.

While the first two empirical papers of my dissertation focused on how domestic joint venture experience with foreign MNEs influenced the strategic decisions made in international expansion, the third empirical paper (chapter 4) examined how useful domestic experience actually was. Here, I studied how having domestic JV experience influenced the survival of foreign subsidiaries of Chinese firms. The results indicated that the effects of domestic joint venture experience on the survival of foreign subsidiaries are highly contingent. Specifically, having domestic joint venture experience is particularly useful when the firm enters a foreign country using a joint venture and when the investment is of a more exploratory nature. Moreover, I found that domestic joint venture experience was less useful after China entered the WTO. The extent to which domestic experience can help prepare for international expansion is thus highly dependent on the nature of the foreign investment.

Implications

Together, these papers provide support for the idea that domestic joint venture experience with foreign MNEs can significantly influence the internationalization of emerging market firms. My findings suggest that by obtaining 'international experience' domestically,

firms can develop a form of firm-specific advantage that allow them to invest abroad, and may mitigate the liability of foreignness such as by learning about foreign markets prior to investing abroad. The results thus add to the vast literature on internalization theory and the liability of foreignness by demonstrating how activities conducted prior to investing abroad may aid the international expansion of firms.

Our results also start shedding light on the nature of learning from international joint ventures between firms from more and less developed countries. In particular, we find limited support for learning about technologies. In chapter 2, we find no effect of being in a high-tech industry on the relation between domestic JV experience and the propensity to invest abroad and in chapter 4 we found no moderation effect of technological capabilities on the relation between domestic JV experience with foreign MNEs and the survival of foreign subsidiaries. If anything, the results in Chapter 3 on the location choice seem to suggest that the extent to which firms can learn about technologies from foreign partners is highly contingent on the presence of complementary technological capabilities, or absorptive capacity. This is in line with the findings from our fieldwork that suggested that Chinese firms in the 1980s and early 1990s lacked the absorptive capacity to appropriate the technological knowledge of foreign partners. Only as Chinese firms started to become more technologically sophisticated did they have the potential to learn about technologies, and in those cases foreign firms often actively tried to protect their proprietary knowledge.

At the same time we find that domestic JV experience is useful in the international expansion process. Having domestic JV experience induces firms to invest abroad, and makes them more likely to invest in countries that are technologically more distant. This implies that above and beyond learning about technologies, these domestic collaborations allow Chinese firms to learn other things. Again, this is in line with the findings from our fieldwork that suggested that domestic JVs were particularly relevant for learning about managerial

capabilities, foreign (more developed) markets, and how to engage in international joint ventures. These effects are not contingent on a firm's absorptive capacity and thus can be learned even in the absence of technological capabilities. This suggests that in addition to the potential for learning about foreign technologies, foreign MNEs function as a useful source of relevant knowledge that is often scarce in emerging or developing markets. Our findings in paper three that domestic experience is particularly useful when firms engage in joint ventures abroad or when they engage in more exploratory activities abroad provide further support for this idea.

Our findings imply that there are significant gains to be had for firms in emerging or developing countries from engaging in joint ventures with foreign firms in their home countries. Especially when the domestic market is less developed, foreign partners can provide access to knowledge that is absent from or scarce in the domestic market (Child & Rodrigues, 2005; Li & Li, 2014; Tian, 2007; Wei & Liu, 2006). Through these domestic collaborations firms can thus upgrade their knowledge bases and prepare for international expansion. Emerging market firms seeking to invest abroad are thus well served by partnering with foreign firms. Moreover, from the perspective of the emerging market firm, it would be useful to pay greater attention to the possibilities for learning. While joint ventures may not be the best way to learn about technologies, particularly if they lack absorptive capacity, they do allow firms to learn about a number of other things. Greater attentiveness to these other types of knowledge may thus allow for greater learning from joint ventures with foreign partners.

For policy makers, our findings indicate that foreign direct investment can serve as a useful source of knowledge that can allow local firms to upgrade their knowledge bases. Together, our results suggest that encouragement of joint venture formation could induce greater knowledge spillovers to local firms, something that has been suggested by some previous studies (Gu & Lu, 2011). In fact, encouraging spillovers was the main goal of the

Chinese government's policy of forcing foreign firms seeking to enter China to engage in a joint venture with a local Chinese partner. However, while this policy aimed to encourage technology spillovers, our results suggest that these spillovers were limited. If local firms lack absorptive capacity they are unlikely to benefit from partnering with more technologically advanced firms, at least where these benefits pertain to technologies (Feinberg & Majumdar, 2001; Zhang, Li, Li & Zhou, 2010). At the same time, potential benefits to these collaborations include an upgrading of managerial practices, greater understanding of foreign markets and awareness of country differences, experience in international joint venture formation, and awareness of the challenges associated with conducting foreign direct investment (Child & Rodrigues, 2005; Chin, 2013). These benefits can help firms prepare for international expansion and may have broader applicability for these firms. Emerging and developing market governments are thus well served by encouraging inward foreign direct investment through joint ventures with local partners.

Generalizability

To truly understand the implications of this dissertation, it is important to consider the generalizability of my findings. While China's unique investment policies make it an excellent context to study how domestic collaborations with foreign MNEs can influence the international expansion of emerging market firms, it may also limit the generalizability of our findings. In particular, one may wonder to what extent our findings hold beyond the emerging market context. For the more developed context, some of our findings may be attenuated. In particular, when a Western firm forms a JV with another Western firm, the relation may be of a different nature. For one, the roles in the joint venture may be different. Few foreign MNEs will, for instance, choose to locate production in countries with high labor costs. This implies

that many of the IJVs in more developed countries will be based on complementarity of knowledge-based assets, rather than on access to local input factors. When protection of technologies is important, and in the face of stronger IPR regimes, the potential for learning (about technologies) may be reduced. At the same time, there is no reason to believe that local partners cannot benefit from a better understanding of their foreign partners' home market, alternative ways of organizing activities, or how to engage in international joint ventures. Particularly if local partners are small firms with little to no foreign experience, they may still be able to upgrade their knowledge base by collaborating with foreign MNEs. After all, in the purely domestic context JV experience has already been demonstrated to be beneficial for future JV formation and success. Moreover, when the differences between home and host countries are not as large, local partners may be less prone to become overconfident or misinterpret the knowledge they gain access to. As such, some of the biases that are also described in Thomas et al. (2007) may be less of a concern.

Moreover, even in highly developed markets, firms seeking to upgrade their knowledge base face a choice between collaborating domestically, developing the technology internally, and investing abroad in search of new knowledge. While a technologically more sophisticated home market will make it easier to gain access to relevant knowledge domestically, the mechanisms described in Chapter 3 should still apply.

Care must also be taken in generalizing our findings to less developed countries. In general, we believe our findings to hold in less developed countries, much as they did in the Chinese context. The value of foreign partners as a source of knowledge should be greater in less developed economies, in which firms have few alternatives to upgrade their knowledge bases. Subsequently, the potential for learning should be even greater in less developed economies than in the Chinese context. In those countries, foreign firms face greater risks in their foreign investment and as such are more likely to form IJVs with a local partner that can

provide an understanding of the host country and share risks. As such, these IJVs provide ample opportunities for local firms to learn. At the same time, firms in less developed countries will have even lower absorptive capacity than emerging market firms, reducing the potential for learning about technologies. Local partners may learn, however, about foreign markets, how to engage in IJVs and collaboration with foreign firms may allow them to increase their efficiency, increasing their international competitiveness. It would be interesting to investigate how domestic experience with foreign MNEs, absent strong government incentives to encourage outward FDI and a market that is characterized by strong economic growth, would influence the international expansion of local partners. In particular, given that some studies have emphasized the necessity to invest abroad to overcome home country challenges(Luo & Tung, 2007), domestic partnering with foreign MNEs may be particularly useful for firms from less developed economies.

Another important caveat to consider stem from the restrictions on inward FDI imposed by the Chinese government. Foreign firms were limited in their ability to enter China using alternative modes of entry, leading to what are sometimes referred to as 'forced marriages' between Chinese firms and foreign MNEs seeking to enter the Chinese market (Duysters, Cloodt, Schoenmakers & Jacob, 2015). This implies that if foreign MNEs had been allowed to enter through alternative modes of entry, the learning potential for local firms may have been smaller. In particular, when foreign MNEs enter through other entry modes local firms may be able to learn vicariously through demonstration and spillover effects. However, we should expect that, ceteris paribus, those firms that have directly collaborated with these firms should be able to learn more. Moreover, direct experiential learning may be less vulnerable to learning biases than these alternative modes of learning. As such, we believe our results to hold even in the absence of policies forcing foreign MNEs to find a local partner, but future research would be well-advised to examine these different spillover effects simultaneously.

In addition, while this dissertation draws heavily from the alliance literature, we operationalize it through joint ventures. Being the most integrated form of alliances, equity joint ventures require greater commitment and sharing of knowledge of both parties through the formation of a separate entity. In fact, several scholars have demonstrated that equity JVs are particularly suited for learning (Mowery, Oxley & Silverman, 1996). As such, we expect learning outcomes to be less pronounced for non-equity alliances, and consequently the relation between domestic alliance experience with foreign MNEs and international expansion to be contingent on the nature of the domestic alliances. This issue can be addressed in follow-up research.

Contributions

This dissertation provides a number of theoretical contributions.

First, this dissertation adds to the literature on learning from alliances. While significant attention has been paid to the extent to and ways in which firms are able to learn from alliances (Hamel, 1991; Lavie, 2006; 2007; Sampson, 2005; 2007), many aspects of this relation are poorly understood. First, many studies have examined the phenomenon in a single country or in a single industry. Our results clearly indicate that cross-border alliances have greater potential for learning than single country alliances, particularly if there are significant differences in the level of development of the countries of both partners. Moreover, we demonstrate that industry-characteristics, such as the extent to which the industry is high-tech or the relative strength of the home country's industry influence the way in which firms are able to learn from strategic alliances and the extent to which strategic alliance experience can influence international expansion. Second, the literature on alliances has largely focused on learning about technologies. This dissertation demonstrates that other things can be learned

from alliances with foreign partners and that these warrant greater attention, both from practitioners and policy makers as well as from researchers. In particular, our results seem to suggest that foreign market knowledge and knowledge about how to engage in international joint ventures are important for helping firms prepare for international expansion. Furthermore, the development of a framework to study learning from alliances adds greater precision to our understanding of the circumstances under which learning occurs, the way in which learning occurs, and the content of knowledge obtained.

We also shed light on the role of behavioral theory in explaining the relation between learning from experience and international expansion. In particular, our results demonstrate that domestic JV experience is not always beneficial. Cognitive biases and capacity constraints limit the ability of firms to learn from experience and to transfer what is learned to dissimilar settings (Levinthal & March, 1993; Reuer, Park & Zollo, 2002). Research on experiential learning in the international business literature must thus ensure to account for behavioral influences that restrict firms' ability to learn and risk drawing incorrect inferences from experience (Thomas et al., 2007).

This dissertation also adds to the literature on international expansion by demonstrating how domestic joint ventures with foreign partners allow local firms to prepare for international expansion prior to investing abroad. Our findings suggest that domestic joint ventures may help aid the development of firm-specific advantages. These firm-specific advantages not only induce foreign direct investment but will also make firms better able to conduct foreign direct investment. While the role of firm-specific advantages in driving foreign direct investment has been studied for decades, very little is known about where these firm-specific advantages come from. Moreover, several studies have suggested that emerging market firms tend to lack firm-specific advantages (Child & Rodrigues, 2005; Guillén & Garcia-Canal, 2009; Ramamurti, 2012). This dissertation has started to examine how emerging market firms can use their

domestic collaborations with foreign partners to develop firm-specific advantages that will allow them to invest abroad.

In a similar vein, my dissertation adds to the literature on the role of international experience in foreign direct investment. While several studies have attempted to address the ways in which firms can mitigate the liability of foreignness when firms invest abroad (Bell, Filatotchev & Rasheed, 2012; Mezias, 2002; Wu & Salomon, 2015), little is known about the means available to firms to reduce the (negative effects of the) liability of foreignness prior to investing abroad. In addition, while significant research has been conducted on the role of international experience in facilitating foreign direct investment (Delios & Beamish, 2001; Delios & Henisz, 2003; Lu, Liu, Wright & Filatotchev, 2014), the extent to which firms can obtain 'international experience' domestically has not been studied. The results from this dissertation suggest that domestic JV experience with foreign partners can allow firms to reduce the negative effects of the liability of foreignness before investing abroad, and serve as a source of international experience that can be gained domestically.

Finally, this dissertation adds to our understanding of the international expansion of emerging market firms. Despite significant attention to the ways in which emerging market multinational enterprises are different from MNEs from more developed countries (Child & Rodrigues, 2005; Deng, 2007; Guillén & Garcia-Canal, 2009; Ramamurti, 2012), many aspects of emerging market firm internationalization remain poorly understood. This dissertation addresses how Chinese firms were able to gain access to knowledge that was scarce in their home country that allowed them to prepare for international expansion and speed up the internationalization process. We also observe temporal effects that suggest that as emerging markets started catching up the value of having domestic JV experience became less, emphasizing the necessity of understanding how the catching up of emerging markets influences emerging market firms and how they relate to more develop market firms.

Furthermore, this dissertation alludes to the role of state ownership and how the ability of emerging market firms to benefit from foreign partners is influenced by corporate governance. Although one should be cautious in drawing inferences from Chinese firms to other emerging market firms (Martin & Li, 2015) , the broad-based sample of Chinese firms and countries used in this dissertation makes generalizations to other emerging markets and emerging market firms more plausible.

Limitations and Directions for Future Research

This dissertation is subject to a number of limitations that can be addressed in follow-up studies.

First, while we hypothesize on the nature of learning and have conducted significant fieldwork to further our understanding of what it is that firms learn from their joint ventures with foreign MNEs, we are unable to empirically measure the exact mechanisms through which learning occurs, or the exact nature of the knowledge obtained through these joint ventures. Follow-up research could start to address these issues by empirically identifying the different types of knowledge that can be transferred or developed through JVs with foreign MNEs. For instance, the relevance of technological knowledge and foreign market knowledge could be examined by analysis of the role of technology in outward FDI and more detailed analysis of the host country choice vis-à-vis domestic partners' home countries. Contingencies such as absorptive capacity and ownership variables could be identified to examine the relative importance of different types of knowledge. Moreover, it would be interesting to empirically identify learning mechanisms, for instance by studying joint venture structure or contracts.

From a theoretical perspective, we are limited in our ability to identify the nature of learning. In particular, while we propose mechanisms for the main relations between domestic

JV experience and outward FDI variables, in the absence of contingencies we are unable to identify the relative importance of different types of learning.

Second, our results suggest that domestic joint venture experience can aid the development of firm-specific advantages and allow firms to reduce the liability of foreignness. However we are unable to directly measure firm-specific advantages or the liability of foreignness. To further develop our understanding of the development of firm-specific advantages and domestic strategies to reduce the liability of foreignness follow-up research could examine the ways in which domestic experience with foreign partners influence local firms' firm-specific advantages and the liability of foreignness they face upon investing abroad. Moreover, this would shed light on the relative relevance of both drivers of foreign direct investment.

In addition, while the dataset used in this dissertation is the outcome of years of data collection and combination of many different data sources to ensure accuracy of the data, the sheer size and breadth of the dataset leaves us unable to test our hypotheses using more micro-variables. While this was a deliberate choice, future research could attempt to study the relationship between domestic joint venture experience and outward foreign direct investment by using more firm-level data. Much of this data has been collected for the purpose of this dissertation but issues pertaining to their coverage made it difficult to include these variables in the current analyses. However, a more fine-grained understanding of the role of firm and experience-specific aspects on learning from alliances and the effects of domestic JV experience on foreign direct investment may reveal additional contingencies. Examples of these are the diversity of domestic experience, and the partners chosen in international investment.

Future research could address three main data issues. The first is the binary nature of many of the variables. In chapter 2, we model the entry mode choice as a binary choice, but clearly there is a continuum of entry modes that firms have at their disposal. Future research could clarify the extent to which domestic JV experience influences other entry mode choices as well. In addition, this chapter would benefit from a more precise measure of the firm's domestic technological environment. One way forward would be to use patent data and the home country's revealed technological advantage, as we did in Chapter 3. Many of the control variables are of a binary nature as well. For instance, we rely on dummy variables to measure corporate governance, through state ownership and listed. However, it would be interesting to examine how other corporate governance variables influence the international expansion of emerging market firms. Some studies have already started to investigate the role of for instance state ownership on foreign investment by emerging market firms (Liang, Ren & Sun, 2014), but greater insight into the complexities associated with corporate governance, particularly in emerging markets, could yield interesting insights into incentives, state ownership, and internationalization. Moreover, in chapters 3 and 4, we examine the role of diversified entry through a binary variable based on NAICS codes. This measure is unable to capture nuances or curvilinear effects in the novelty of foreign investments and this is something that could be addressed in follow-up research, for instance by using the approach employed by Zollo et al. (2002).

If emerging market firms are able to catch up using their domestic collaborations with foreign partners it would be interesting to understand what the global competitive implications of this are. For one, it would be interesting to study if firms end up entering their domestic joint venture partners' home countries, and if so if they are likely to replicate their domestic relationship. In early analyses I found limited support for the replication of relationships in the foreign partners' home country, but there are other ways in which these relationships may be

replicated, for instance in other countries. It would also be interesting to study if emerging market firms are more likely to diversify into their foreign partner's industry, and if at the global level they may become active competitors. In the context studied here the vast majority of joint ventures were between firms from different industries, so domestic alliance experience may have induced the Chinese firms to expand their activities into new industrial domains. The extent to which domestic interactions can induce global competitive or cooperative behavior between (former) joint venture partners warrants further attention.

The second data issue pertains to the lack of firm-specific variables. While my database is rather comprehensive, it also implies that coverage in terms of firm-level variables is not consistent across the period 1978-2014. In order to be able to use all observations I therefore cannot include important firm-level variables such as firm size, age, and profitability. Additional research could use subsamples of this dataset to examine the role of these firm-level variables in explaining international expansion. This would also alleviate some of the endogeneity concerns that I have tried to address in my dissertation through matching, two-stage procedures, and firm effects, but that persist regardless.

The third data issue involves some codification challenges. A more complete picture of the role of domestic JV experience would account for issues such as the motivation of the inward investment (by the foreign MNE in China), the success of the alliance, the diversity of the alliance, and use moving windows of current versus past alliances. Due to the complexity of calculating these measures for more than 26,000 joint ventures and the differences in reporting methods I have thus far been able to address these challenges. However, future research may be able to work through these challenges to provide greater insight into not only the number of domestic joint ventures, but rather the nature and success of domestic joint ventures.

Some additional issues warrant further investigation as well. For one, it is important to understand where the limit of learning from foreign partners are. The behavioral theory of the firm has highlighted how managers, and thereby firms, are sometimes limited in their ability to effectively learn from their experience. In the context of this dissertation, it would be useful to understand the limits of foreign partners as a source of learning and knowledge. In particular, one might wonder under what circumstances domestic experience with foreign MNEs may actually compromise the development of Chinese firms, and thereby their long-term performance. Chapter 3 already alluded to possible substitution effects and it would be useful to understand the extent to which a strong reliance on foreign partners may ultimately harm Chinese firms, by reducing their incentives to invest in internal R&D for instance, or by providing them with knowledge that is dissimilar to the knowledge provided by FDI.

Moreover, it would be interesting to examine the extent to which Chinese firms will continue to learn from their foreign partners. With technology standards and competition moving in a fast pace, the ability of Chinese firms to benefit from foreign partners may be limited. As more and more Chinese firms are approaching the technology frontier, foreign partners may have become much more reluctant to share knowledge, even in the face of strengthening IPR regimes. 'Leave your key technologies at home' has become the rule, rather than the exception for foreign firms entering China, and research has shown that foreign MNEs can use their multinationality to protect proprietary assets in countries with weak intellectual property rights (Zhao, 2006). In addition, with the Chinese government's efforts to reduce reliance on foreign technologies, they have actively promoted indigenous innovation. These factors are all likely to bear an influence on the ability and likelihood of learning from foreign partners and future research may be able to address these issues.

Finally, this dissertation has not addressed the extent to which foreign MNEs benefited from their joint ventures with local Chinese partners. While it is well known that having a local

partner can have significant advantages, particularly in countries that are dissimilar to the firm's home country, the extent to which foreign MNEs were able to learn from their local partners is poorly understood. Future research could address the nature of learning from the perspective of the foreign MNE. Moreover it would be interesting to examine how experience in emerging markets may facilitate entry into other emerging markets, or may provide benefits that the firm is able to use in its home country. For instance, decision-making and product development time in many emerging market firms are quite fast. Future research could examine how such practices may be transferred to foreign MNEs. In addition, it would be interesting to examine how the extent to which foreign MNEs actively transfer non-proprietary knowledge to local partners influences joint venture performance. In our interviews, several foreign MNEs indicated that they actively transferred knowledge to local partners to facilitate collaboration. An empirical investigation of this relationship could provide interesting insights into collaborative returns in joint ventures in less developed countries.

Overall this dissertation has yielded significant insights into the role of domestic collaborations with foreign partners in allowing emerging markets firms to prepare for international expansion. It hereby contributes to the literature on learning from alliances, internationalization, and emerging market multinationals, opening up new avenues for future research.

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